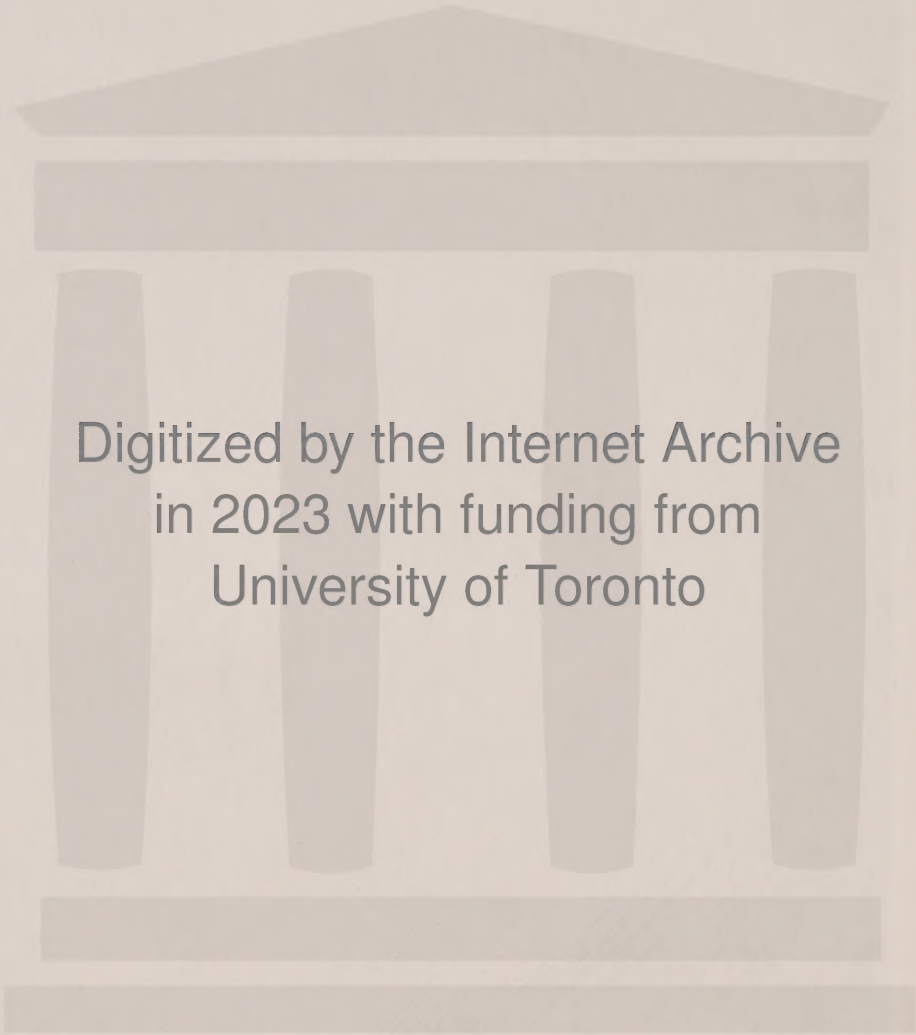

Statistics Canada Statistique Canada

SIX BACKGROUND REPORTS ON UNIVERSITY MANAGEMENT EDUCATION IN CANADA

Institutional and Public Finance
Statistics Branch

March 25, 1978

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FOREWORD

These draft reports have been prepared jointly by Statistics Canada and the Council of Deans of Faculties of Management and Business Administration as background studies to "A Review of University Management Education in Canada" which was recently released.

This report has served also as a pilot project for the "Discipline Profile Series" which is being developed by Statistics Canada in conjunction with the Social Sciences Federation of Canada and the Canadian Federation for the Humanities.

These six supporting papers are:

1) "Business Faculty at Canadian Universities in the Mid-1970's" by Donald M. Caskie, Alf Chaiton, and Max von Zur-Muehlen

2) "Income Patterns of Business Graduates and Those in Other Selected Disciplines in the Mid-1970's" by Donald M. Caskie and Max von Zur-Muehlen

3) "Employment Patterns of Administrative Studies Graduates in the Federal Public Service in the 1970's" by Donald M. Caskie and Max von Zur-Muehlen

4) "Canada Council and Administrative Studies: Funding Patterns in the Mid-1970's" by Donald M. Caskie

5) "National Research Council Support for University Management Education - A Preliminary Description" - by Alf Chaiton

6) "An Analysis of the Bronfman Foundation Seagram Business Fellowship Program" by Max von Zur-Muehlen and Donald M. Caskie

These papers draw attention, in greater detail, to some aspects of university management education in Canada.

The views expressed in these draft studies are those of the authors and not necessarily of Statistics Canada or the Council of Deans.

Max von Zur-Muehlen, Ph.D.,
Co-ordinator of Research,
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Statistics Branch

March 13, 1978

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* Refers to handwritten page numbers.

BUSINESS FACULTY AT CANADIAN UNIVERSITIES IN THE MID 1970's

by

Donald M. Caskie,
Alf Chaiton, and
Max von Zur-Muehlen

Prepared for

Annual Meeting of the Council of Deans
of Faculties of Management and Business Administration

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Statistics Branch,

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PREFACE

This descriptive study of business faculty in the mid-1970's is a joint project of the Council of Deans of Faculties of Management and Business Administration and Statistics Canada.* Dr. Max von Zur-Muehlen of Statistics Canada and Donald M. Caskie and Alf Chaiton, Consultants to the Council of Deans, developed the objectives and structure of the report in conjunction with Dean Max Clarkson, Chairman of the Council of Deans. For Statistics Canada, this study has been part of the developmental work in its "Discipline Profile Series" which are being prepared in conjunction with the Social Science Federation of Canada.

The source of data for this study is mainly the University Teachers File of Statistics Canada. This computerized file has a wealth of information on the characteristics of full-time university teachers in Canada. Some of the information presented in this study has not been hitherto utilized by the research community.

Readers interested in gaining an historical perspective on some of the variables presented here are referred to two studies by Max von Zur-Muehlen: Business Education and Faculty at Canadian Universities, Economic Council of Canada, Ottawa, 1971; and "University Business Education in Canada During the Sixties and Seventies", Statistics Canada, Ottawa, April 10, 1977.

To put the 1976-77 cross-sectional data into historical perspective, Table 1 indicates the number of full-time business faculty from 1956-57 to 1976-77. The reader is urged to consult the tables following the text for more detailed information than is highlighted in the descriptive analysis.

Written comments on the present draft report are welcomed by the authors.

Acknowledgement:
We wish to express our appreciation to Ms. Pat Brady and Ms. F. Jean-Marie of the Post-secondary Section, Education, Science and Culture Division of Statistics Canada for their helpful advice and their efficiency in retrieving the data and to Mrs. Christine Jolicoeur and Mrs. E. Kealey for typing and clerical assistance.

* Other studies which will be presented at the Annual Meeting are: "Income Patterns of Business Graduates and Those in Other Selected Disciplines in the Mid-1970's", (by Donald M. Caskie and Max von Zur-Muehlen); "Employment Patterns of Administrative Studies Graduates in the Federal Public Service in the 1970's, (by Donald M. Caskie and Max von Zur-Muehlen); "An Analysis of the Bronfman Foundation Seagram Business Fellowship Program", (by Max von Zur-Muehlen and Donald M. Caskie); "Canada Council and Administrative Studies: Funding Patterns in the Mid-1970's", (by Donald M. Caskie); and "National Research Council Support for University Management Education - A Preliminary Description", (by Alf Chaiton).

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Business Faculty at Canadian Universities in the Mid-1970's

The present study is designed to provide an overview of some of the important characteristics pertaining to the existing stock of faculty and new appointments teaching full-time in the academic year 1976-77 (1975-76 for Quebec)(1). Information is presented on the personal characteristics of the faculty, their educational and occupational background and their present university status. For each of these variables, the business administration teachers are compared with the full-time university teachers in all teaching fields combined with the similarities and differences being emphasized.(2)

The following sections highlight some of the important variables. For most of the variables studied there are close similarities between business faculty and total faculty in terms of either new appointments or stock. Because of the growth pattern of business administration compared with that in other disciplines the characteristics pertaining to new appointments take on increased meaning as they indicate the composition of the future stock.

(1) The term "stock" is used to indicate all faculty regardless of year of appointment.

(2) According to Statistics Canada, the source of all data used in this study, business administration includes the following areas: business administration, accounting, finance and banking, industrial relations, management, marketing, retailing, personnel management, secretarial science and other commerce - business studies.

A. Personal Characteristics

Sex Distribution (Table A-1)

Compared with all university faculty business administration has a much lower percentage of women in its ranks; this is true for both total stock and new appointments. However, this pattern is changing as new appointments enter the universities; for all new appointments and those in business administration, the percentage of women is considerably higher than for the stock of faculty.

Age Distribution (Table A-2)

While the age distribution of business and total new appointments was very similar in 1976-77 (e.g., in both cases, four-fifths of those newly hired were between 20 and 39 years of age), there is considerable dissimilarity between business and total stock. The business stock is noticeably younger with almost 40% being under 34 compared to only 25% for the total stock. This is a direct reflection of two factors: first, the continued growth in the business schools compared with the stabilization in faculty hiring in other disciplines and secondly, the greater proportion of business faculty being hired with degrees other than the doctorate.

Citizenship And Immigration Status (Table A-3)

No appreciable differences exist between business and all disciplines as regards the citizenship or immigration status of the new appointments and stock. Of the new appointments, approximately 92% are either Canadian citizens or landed immigrants, while over 95% of the stock were in the above categories.

Country of Citizenship (Table A-4)

There is a close similarity for the stock, as to the country of citizenship of both business and total faculty. Almost 75% of the faculty are citizens of Canada, followed by approximately 13% who are citizens of the United States; while 6% of the total stock are citizens of the United Kingdom, for the business stock, it is less than 3%.

Canada is the country of citizenship of 63% of the new appointments in business and 68% of total new hirings. Again, the next largest group is from the United States, followed by those with United Kingdom citizenship.

The difference in the percentage of new appointments and stock with Canadian citizenship is partly a reflection of the time required to become eligible for Canadian citizenship.

Country of Citizenship of Faculty with Ph.D.'s (Table A-5)

Canadian citizens compose the majority of business and total faculty. 68% of the total stock and 58% of the business stock are Canadians. The next largest citizenship group is composed of Americans; business draws 19% of its faculty from those with U.S. citizenship, while all disciplines have 17%.

In regard to new appointments, 60% of total faculty are Canadian citizens but only 46% of the business faculty are Canadians. Americans account for 30% of the new appointments in business and 23% of those in all disciplines combined.

B. Educational Background

Highest Degree Level Achieved (Table B-1)

Business administration and all disciplines are very close in the percentage of their faculty having graduate degrees as the highest level of education attained; this is the case for both stock (approximately 85%) and new appointments (approximately 80%).

However, compared with total stock and total new appointments, there are fewer business administration faculty with doctoral degrees. While 62% of the total stock and 45% of the total new appointments have doctoral degrees, only 44% of the stock and 30% of the new appointments in business administration have this degree.

The situation is almost exactly reversed when one looks at those with master's degrees. In fact, the percentage differences are about the same whether one looks at the stock or at the new appointments.

Country to Award First Degree (Table B-2)

A larger proportion of business school faculty (65%) than total faculty (58%) have obtained their first university degree in Canada. The proportion for each of the above groups of faculty who have been educated in the United States is similar (approximately 17%) while the proportion of those who have obtained their first degree in the United Kingdom is higher for total stock (11%) than for business stock (5%).

The distribution of new appointments is very similar for business and total faculty: those educated in Canada, the United States and the United Kingdom comprising approximately 58%, 18% and 9% respectively.

Year(s) Since First Degree Awarded (Table B-3)

As to be expected, given the age distribution presented in Table A-2, a higher proportion of business administration than total stock have received their first degree within the past 9 years; the percentages being 27 and 16 respectively. However, the distribution prevailing for business and total new appointments are quite similar, with 50 - 54% of these teachers having obtained their first degree within the last 9 years.

For both new appointments and stock, the percentage who received their first degrees in the past 10 - 19 years was about the same. As well, business administration is beginning to catch up in the range 20 - 40 or more.

Country which Awarded Doctoral Degree (Table B-4)

While the United States has been the largest single supplier of doctoral degree-holders to staff Canadian universities for both business administration and total faculty, the proportion is much higher for business faculty. Of the business faculty 76% of the stock and 58% of the new appointments have received their doctorates in the United States; the corresponding percentages for total faculty are only 44 and 38.

As the supply of Canadian-trained doctoral degree-holders increases this proportion will presumably change. While 32% of the total stock and just 15% of business stock have received their doctoral training in Canada, the percentages for new appointments are somewhat higher at 43% and 24% respectively.

Even though only 4% of the business stock have received their doctorates from British universities, 11% of the new appointments have studied there. While a larger percentage of total than business stock have obtained their doctorate in Britain.

Year(s) Since Doctoral Degree Awarded (Table B-5)

A larger percentage of the business stock than the total stock have obtained their doctoral degree within the past nine years. While 49% of the total stock obtained their doctorate in this time, the percentage for business faculty is 73%. The proportion of business faculty who have received their degree in the past 2 years is double that of total stock (13% compared with 6.5%).

Of the new appointments, both business and all disciplines report that 84% have received their doctorates in the past nine years, however business has a much larger percentage who received their doctorates in the past two years, 48% compared to 37%.

C. Occupational Background*

Previous Employment (Table C-1)

The largest single type of previous employment for business and total stock is university teaching. The next largest group hired were formerly students. Business administration however has recruited a lower percentage of its faculty from university teaching positions (37%) than have all disciplines combined (42%). Business administration as expected has recruited greatly from the business sector; this sector has provided 20% of the business stock but only 5% of total stock.

There is a close similarity in the percentage of university teachers and students hired as new appointments by both business and all disciplines combined. Just under half of all new appointments in 1976-77 were university teachers and another one-fifth were formerly students. Of the remaining new appointments there are considerable differences between business and the total new appointments, with the former being drawn heavily from the business world and to a much lesser extent from administrative posts in education and government, while the latter is drawn fairly evenly from education, business and government.

Country of Previous Employment (Table C-2)

Business faculty have been recruited to a greater extent in Canada than have total faculty; 65% of the business faculty and 60% of the total faculty worked or studied in Canada prior to their present employment. Canadian universities have drawn heavily on United States for recruitment, with 29% and 26% of business and total faculty, respectively, having previously worked or studied in United States. Business has depended much less heavily than the other disciplines on recruitment from the United Kingdom.

The same pattern generally applies with regard to new appointments, although there was a big increase in recruitment from the U.K. Business and total faculty shared a common distribution pattern; approximately, 70% from Canada, 20% from the United States and 5% from the United Kingdom.

Country of Previous Employment of Doctoral Degree-Holders (Table C-3)

Large differences prevail in the place of previous employment of business administration and total faculty stock with doctorates. While 48% of all faculty have been recruited in Canada, only 37% of the business teachers have been from here. The United States provided the next largest source of total faculty with its own Ph.D. programs. (36%) and the majority of business schools faculty (55%). The latter reflects the

* The reader should note that the data in this section contain significantly more faculty in the "not reported" category than for the other three sections.

heavy dependence by Canadian business schools on United States graduate schools.

For new appointments there are few differences as to the country of previous employment between business and total faculty. The largest percentage have been recruited in Canada (60% approximately), followed by the United States (31% of business and 26% total faculty). Total faculty are recruited much more heavily from the other countries of the world than is the case for business administration.

Previous Employment and Country of Previous Employment of New Appointments (Table C-4)

Regardless of country of previous employment, both business schools and the universities draw their new appointments from two major sources: students and university teachers.

Compared with faculty drawn from Canadian employment, faculty recruited from the United States have come to a greater extent from these two sources. Approximately 85% of recruits from the United States but only 60 - 65% from Canada have previously been university teachers or students. In business administration 22% of the recruits from Canada but none from the United States have previously worked in business.

For all types of previous employment the majority of recruits are from Canada, and little difference exists between business and total new appointments.

D. Present University Status

Academic Rank Distribution (Table D-1; information on a university basis is presented in Table D-2)

The most distinct differences between business and total stock are the former's lower percentage of faculty in the rank of full professor (17% compared with 25%) and the higher proportion of faculty below the rank of assistant professor (23% compared with 13%). This is a reflection of the later growth cycle of business administration than for the other disciplines; business is still growing at a more rapid pace than most other disciplines and may have made short-term appointments. It also reflects the younger age structure for business faculty, and the greater proportion of appointments from the business community.

In reference to new appointments, there is little difference between business and total, except that business is hiring a larger proportion of faculty with associate professor rank and less with the rank of assistant professor. A large proportion of the new faculty hired are unranked (i.e., below the rank of assistant professor): almost two-fifths of new appointments compared with under one-quarter of the business stock and little over one-tenth of the total stock.

Given the great diversity in individual programs, no commentary has been prepared on the rank distribution of faculty by university or province. Instead, the reader is referred to Table D-2 for information on particular universities.

Duties Performed (Table D-3)

The vast majority of university faculty, whether stock or new appointments, are involved in teaching rather than administration. Including visiting professors, approximately 95% of the faculty are teachers. There is also little difference in the types of administrative position held by business or total faculty; for example, 1.4% of the business stock and 1.3% of the total stock are deans, and the same close parallel prevails in the distribution of other administrative positions.

Number of Years Since Appointment to Present University (Table D-4)

Reflecting the great growth in the discipline of business administration in the past decade, it is most revealing that 77% of the business school faculty have joined their present university within the past 9 years.(1)

(1) Note that Quebec is excluded from this calculation due to data insufficiency. However, it is expected that the same percentage or even a higher percentage would be valid in Quebec.

This compares with 64% for all disciplines. What is even more revealing though is the fact that 57% of the present business school faculty have been hired in the 1970's compared with 40% of total faculty. In the past three years ending in 1976-77, the business schools have hired 39% of their present faculty but the universities have hired only 22% of their total full-time teachers.

Salary Structure (Table D-5)

For the ranked positions the median salary of business administration professors is slightly higher than that of all disciplines combined.(1) This means that the business school median salaries are 1.6%, 5.3%, and 4.0% higher for full associate and assistant professors, respectively, than for the comparable ranks of all disciplines combined.

In the two largest academic ranks, associate and assistant professor, a higher proportion of the business faculty than total faculty are in the upper income categories.

At the rank of associate professor, a larger proportion of the business than the total faculty are making $25,000 or more. And at the assistant professor rank, the same situation prevails when incomes of $20,000 or more are considered.

(1) For further information on income patterns, the reader is referred to another study prepared for the Annual Meeting of the Council of Deans entitled, "Income Patterns of Business Graduates and Those in Other Selected Disciplines in the Mid-1970's".

Summary

Of the characteristics reviewed in this study, there are a fair number of similarities between business and total faculty, particularly for new appointments. For those characteristics where differences are evident, they are usually ones of degree. Most of the differences can be attributed to one or more of the following major reasons:

1) Differences in growth patterns

While other disciplines have either had a reduced rate of growth in the 1970's compared with the 1960's, or experienced a stabilization in enrolment, the business schools have increased their enrolment. Full-time undergraduate business enrolment in 1976-77 was 267% greater than that of 1962-63, whereas comparable enrolment for all disciplines increased by only 138%.(1) From 1970-71 to 1976-77, the comparable increases were 72% and 14% respectively. The ratio of full-time business undergraduate enrolment to full-time faculty has declined since 1962-63; the ratio for 1962-63 was 41:1 and this declined to 23 in 1972-73 and to 21 in 1976-77. These changes have necessitated the large increases in hiring in the 1970's in business - much higher than for total faculty. Changes in such characteristics as year since appointment, age, highest degree level attained, and rank for instance are heavily related to this growth differential.

2) The nature of the discipline

While there is a larger proportion of bachelors and masters degree-holders (as highest degree earned) among business than total faculty, some of these have professional certificates like C.A. or R.I.A. and also may have work experience highly relevant to their teaching specialty. As to be expected, business recruits more heavily from the business sector than other disciplines, even though most recruitment is drawn from the ranks or university teachers from other universities and from graduate students.

3) The development pattern of doctoral studies at Canadian universities

While other disciplines in Canada have had a fairly long history of doctoral studies, this has not been so for business. The first doctoral program, at the University of Western Ontario, commenced in 1960.

According to Statistics Canada, (between 1961-62 and 1969-70) 4 doctoral degrees in business were awarded by Canadian universities; this compares with over 6,000 for all other disciplines combined. From 1970-71 to 1974-75, 49 doctoral degrees in business have been awarded by Canadian universities. In 1975-76 the doctoral enrolment at these universities was 132.

(1) According to Statistics Canada, business full-time undergraduate enrolment increased from 7,854 to 28,839 and total enrolment from 132,681 to 315,272 for this period.

Through the mid-1970's it seems that, except for age-related variables, there has been a trend to an increased amount of similarity in the characteristics of business faculty compared with those in other disciplines. However, as the 1980's approach, the increases in enrolment currently evident in business compared with the stabilization or even decline in enrolment in other disciplines may create pressures to change those hiring patterns. For instance, if the doctoral programs at Canadian business schools cannot produce enough Ph.D.'s to meet the increased demand for new faculty with this level of education, then the business schools may be forced either to search elsewhere for faculty or to adjust the enrolment levels to match the capacity of the present complement of faculty. Careful monitoring of current and future trends is advised to ensure that the high standards of university business education can be maintained.

Table 1

Number of Full-time University Teachers
in Commerce and Business Administration, 1956-57 to 1976-77

	Commerce & Business Administration	Percentage in Commerce and Business Adm.	Total, all Disciplines
1956-57	107	2.2	4,973
1957-58	126	2.5	5,148
1958-59	146	2.7	5,325
1959-60	154	2.6	5,889
1960-61	161	2.5	6,454
1961-62	177	2.4	7,172
1962-63	192	2.4	7,890
1963-64	236	2.6	9,125
1964-65	283	2.7	10,605
1965-66	331	2.7	12,085
1966-67	417	2.9	14,392
1967-68	502	3.0	16,703
1968-69	607	3.2	18,864
1969-70	685	3.1	21,839
1970-71	712	2.9	24,604
1971-72	923	3.4	26,963
1972-73	952	3.4	27,870
1973-74	1,051	3.7	28,539
1974-75*	1,227	4.1	29,710
1975-76	1,273	4.1	30,784
1976-77 ≠	1,374	4.4	31,460

* Includes, for the first time, university teachers from Ryerson Polytechnical Institute.

≠ Quebec data is for 1975-76

Source: Statistics Canada

TABLE A-1

Sex Distribution of Full-time New Appointments and Stock at Canadian Universities, 1976-77*

Sex	New Appointments				Stock			
	Business Administration		Total		Business Administration		Total	
	Number	%	Number	%	Number	%	Number	%
Male	183	89.3	2034	78.2	1270	92.4	26940	85.6
Female	22	10.7	566	21.8	104	7.6	4520	14.4
Total	205	100.0	2600	100.0	1374	100.0	31460	100.0

* The source for this and all other tables is Statistics Canada, University Teachers File. The data for Quebec are all 1975-76 unless otherwise noted.

TABLE A-2

Age Distribution of Full-Time New Appointments and Stock at Canadian Universities, 1976-77*

Age	New Appointments				Stock				Business Administration as % of Total Faculty	
	Business Administration		Total		Business Administration		Total			
	Number	%	Number	%	Number	%	Number	%	New Appointments	Total
20 - 24	9	4.4	63	2.4	14	1.0	87	0.3	14.3	16.1
25 - 29	52	25.5	653	25.3	143	10.4	1735	5.5	8.0	8.2
30 - 34	69	33.8	912	35.4	379	27.6	6125	19.6	7.6	6.2
35 - 39	35	17.2	434	16.8	293	21.4	7083	22.6	8.1	4.1
Sub-Total: 20 - 39	165	80.9	2062	80.0	829	60.4	15030	48.0	8.0	5.5
40 - 44	14	6.9	241	9.3	192	14.0	5667	18.1	5.8	3.4
45 - 49	17	8.3	145	5.6	150	10.9	4319	13.8	11.7	3.5
50 - 54	4	2.0	72	2.8	93	6.8	3012	9.6	5.6	3.1
55 - 59	1	0.5	33	1.3	68	5.0	1940	6.2	3.0	3.5
60 - 64	3	1.5	15	0.6	32	2.3	1144	3.7	20.0	2.8
65 and over	0	0.0	10	0.4	8	0.6	209	0.7	0.0	3.8
Total Reported	204	100.0	2578	100.0	1372	100.0	31321	100.0	7.9	4.4
Not Reported	1		22		2		139			
Total	205		2600		1374		31460		7.9	4.4

* Quebec data is for 1975-76 but the age distribution of this population has been converted to 1976-77 base.

Table A-3

Citizenship and Immigration Status of Full-time New Appointments and Stock at Canadian Universities, 1976-77

Citizenship and Immigration Status	NEW APPOINTMENTS				STOCK				New Appointments as % of stock	
	Business Admin.		Total		Business Admin.		Total			
	Number	%	Number	%	Number	%	Number	%	Business Administration	Total
Canadian Citizen	127	70.2	1,711	72.3	990	78.0	22,367	77.6	12.8	7.6
Landed Immigrant	39	21.5	467	19.7	230	18.1	5,963	20.7	17.0	7.8
Sub-Total: Above	166	91.7	2,178	92.0	1,220	96.1	28,330	98.3	13.6	7.7
Employment Visa	15	8.3	189	8.0	49	3.9	502	1.7	30.6	37.6
Total Reported	181	100.0	2,367	100.0	1,269	100.0	28,832	100.0	14.3	8.2
Not Reported	24		233		105		2,628			
Total	205		2,600		1,374		31,460		14.9	8.3

TABLE A-4

Country of Citizenship of Full-time New Appointments and Stock at Canadian Universities, 1976-77.

Country of Citizenship	New Appointments				Stock			
	Business Administration		Total		Business Administration		Total	
	Number	%	Number	%	Number	%	Number	%
Canada	127	63.2	1711	67.5	990	74.3	22369	73.1
United States	31	15.4	356	14.0	181	13.6	3965	13.0
United Kingdom	13	6.5	172	6.8	36	2.7	1857	6.1
Other Commonwealth ..	7	3.5	92	3.6	35	2.6	674	2.2
Belgium & France	9	4.5	57	2.2	37	2.8	499	1.6
Other Europe	4	1.9	68	2.7	16	1.2	678	2.2
Other	10	5.0	80	3.2	37	2.8	543	1.8
Total Reported	201	100.0	2536	100.0	1332	100.0	30585	100.0
Not Reported	4		64		42		875	
Total	205		2600		1374		31460	

Table A-5

Country of Citizenship of Full-Time New Appointments and Stock Holding Doctoral Degrees Employed at Canadian Universities, 1976-77

Country of Citizenship	New Appointments				Stock			
	Business Administration		Total		Business Administration		Total	
	Number	%	Number	%	Number	%	Number	%
Canada	26	45.6	320	59.8	635	57.7	12,555	68.4
United States	17	29.8	123	23.0	211	19.2	3,059	16.7
United Kingdom	4	7.0	17	3.2	86	7.8	1,148	6.3
Other Commonwealth	1	1.8	25	4.7	57	5.2	496	2.7
Belgium & France	2	3.5	14	2.6	27	2.5	263	1.4
Other Europe	1	1.8	9	1.7	41	3.7	471	2.6
Other	6	10.5	27	5.0	44	4.0	370	2.0
Total Reported	57	100.0	535	100.0	1,101	100.0	18,362	100.0
Not Reported	2		27		24		420	
Total	59		562		1,125		18,782	

TABLE B-1
Highest Degree Level Achieved by Full-time New Appointments and Stock
at Canadian Universities, 1976-77*

Highest Degree Level Achieved	New Appointments				Stock			
	Business Administration		Total		Business Administration		Total	
	No.	%	No.	%	No.	%	No.	%
Doctoral	45	29.8	891	45.4	445	44.0	15130	61.7
Professional	2	1.3	126	6.4	2	0.2	1412	5.8
Masters	72	47.7	670	34.1	414	40.9	5970	24.3
Graduate Diploma	3	2.0	13	0.7	11	1.1	164	0.7
Bachelors	20	13.2	213	10.8	108	10.7	1481	6.0
Professional Designation (not a degree)	7	4.6	26	1.3	23	2.3	155	0.6
Undergraduate	2	1.3	14	0.7	7	0.7	127	0.5
Sub-Total above	1 51	100.0	1953	99.4	1010	99.9	24439	99.6
None of above	0	0	11	0.6	1	0.1	96	0.4
Total Reported	151	100.0	1964	100.0	1011	100.0	24535	100.0
Not Reported	3		51		5		260	
Total	154		2015		1016		24795	

* excludes Quebec but includes College Militaire Royal de St. Jean

TABLE B-2

Country which Awarded First Degree to Full-Time New Appointments and Stock at Canadian Universities, 1976-77

Country To Award First University Degree	New Appointments				Stock			
	Business Administration		Total		Business Administration		Total	
	Number	%	Number	%	Number	%	Number	
Canada	115	57.8	1,451	57.7	886	65.1	17,840	57.6
United States	36	18.1	472	18.8	244	17.9	5,383	17.4
United Kingdom	17	8.5	215	8.5	62	4.6	3,279	10.6
Other Commonwealth	10	5.0	104	4.1	51	3.8	1,102	3.6
Belgium & France	9	4.5	79	3.1	42	3.1	799	2.6
Other Europe	2	1.0	88	3.5	29	2.1	1,410	4.6
Other	10	5.0	106	4.2	46	3.4	1,157	3.7
Total Reported	199	100.0	2,515	100.0	1,360	100.0	30,970	100.0
Not Reported	6		85		14		490	
Total	205		2,600		1,374		31,460	

TABLE B-3

Year(s) Since First Degree or Diploma Awarded to Full-Time University Teachers, New Appointments and Stock, 1976-77*

Year Since First Degree or Diploma Awarded x	New Appointments				Stock			
	Business Administration		Total		Business Administration		Total	
	Number	%	Number	%	Number	%	Number	%
4 years or less	29	14.6	316	12.6	80	5.9	689	2.2
5 - 9	70	35.4	1047	41.8	282	20.8	4335	14.1
10 - 14	50	25.3	600	24.0	385	28.4	8038	26.1
15 - 19	24	12.1	263	10.5	248	18.3	6589	21.4
Sub-Total: 19 or less	173	87.4	2226	89.0	995	73.3	19651	63.7
20 - 24	12	6.1	123	4.9	152	11.2	4396	14.3
25 - 29	7	3.5	87	3.5	115	8.5	3730	12.1
30 - 34	3	1.5	36	1.4	48	3.5	1539	5.0
35 - 39	1	0.5	16	0.6	34	2.5	1012	3.3
40 or more	2	1.0	14	0.6	13	1.0	520	1.7
Total Reported With Degree	198	100.0	2502	100.0	1357	100.0	30848	100.0
No Degree, Diploma	0		12		1		108	
Not Reported	7		86		16		504	
Total	205		2600		1374		31460	

* Quebec data is for 1975-76; for this table the 1975-76 population has been assumed to be the same as 1976-77.

x Includes university degrees, post secondary diplomas, or professional designations.

TABLE B-4

Country which Awarded Doctoral Degree to Full-Time New Appointments and Stock at Canadian Universities, 1976-77*

Country to Award Doctoral Degree	New Appointments				Stock			
	Business Administration		Total		Business Administration		Total	
	Number	%	Number	%	Number	%	Number	%
Canada	11	24.4	377	42.6	65	14.6	4806	31.9
United States	26	57.8	336	37.9	338	76.0	6615	43.9
United Kingdom	5	11.1	99	11.2	16	3.6	2344	15.6
Other Commonwealth ...	1	2.2	19	2.1	6	1.3	272	1.8
Belgium & France	2	4.4	19	2.1	4	0.9	295	2.0
Other Europe	0	0.0	25	2.8	13	2.9	611	4.0
Other	0	0.0	11	1.2	3	0.7	116	0.8
Total Reported	45	100.0	886	100.0	445	100.0	15,059	100.0
Not Reported	0		5		0		71	
Total	45		891		445		15,130	

* excludes Quebec but includes College Militaire Royal de St. Jean.

Table B-5

Year(s) Since Doctoral Degree Awarded to Full-Time University Teachers, New Appointments and Stock, 1976-77*

Years Since Doctoral Degree Awarded	NEW APPOINTMENTS				STOCK				New Appointments as % of Total	
	Business Admin.		Total		Business Admin.		Total			
	Number	%	Number	%	Number	%	Number	%	Business Administration	Total
2 years or less	21	47.7	329	37.3	58	13.1	977	6.5	36.2	33.7
3 - 4	7	15.9	195	22.1	76	17.2	1489	9.9	9.2	13.1
5 - 9	9	20.5	223	25.3	189	42.7	4979	33.0	4.8	4.5
Sub-Total: 9 Years or Less	37	84.1	747	84.6	323	72.9	7445	49.3	11.4	10.0
10 - 14	3	6.8	81	9.2	66	14.9	3655	24.2	4.5	2.2
15 - 19	1	2.3	22	2.5	26	5.9	1896	12.6	3.8	1.2
20 - 24	2	4.5	14	1.5	14	3.2	1172	7.8	14.3	1.2
25 - 29	0	0.0	10	1.1	9	2.0	616	4.1	0.0	1.6
30 - 34	0	0.0	4	0.5	3	0.7	152	1.0	0.0	2.6
35 years or more	1	2.3	5	0.6	2	0.4	157	1.0	50.0	3.2
Total Reported	44	100.0	883	100.0	443	100.0	15093	100.0	9.9	5.8
Not Reported	1		8		2		37		50.0	21.6
Total Doctoral	45		891		445		15130		10.1	5.9

* Excludes Quebec but includes Collège Militaire Royale De St. Jean

TABLE C-1

Previous Employment of Full-time New Appointments and Stock
at Canadian Universities, 1976-77

Previous Employment	New Appointments				Stock			
	Business Administration		Total		Business Administration		Total	
	Number	%	Number	%	Number	%	Number	%
University, Teaching	85	47.8	1106	49.5	444	37.3	11723	42.4
University, Non-Teaching	4	2.2	64	2.9	16	1.3	475	1.8
Other Educ. Teaching	4	2.2	92	4.1	66	5.5	1950	7.4
Other Educ. Non-Teaching	3	1.7	21	0.9	9	0.8	266	1.0
Student	35	19.7	468	20.9	281	23.6	6542	24.9
Health Care Employment	1	0.6	127	5.7	7	0.6	1149	4.4
Military Employment	0	0.0	13	0.6	1	0.1	176	0.7
Government Employment	6	3.4	130	5.8	61	5.1	1694	6.4
Employment in Business	32	18.0	95	4.2	239	20.1	1402	5.3
Self-Employment	5	2.8	60	2.7	30	2.5	654	2.5
Other	3	1.7	60	2.7	36	3.0	806	3.1
Total Reported	178	100.0	2236	100.0	1190	100.0	26837	100.0
Unreported	28		364		184		4623	
Total	205		2600		1374		31460	

TABLE C-2

COUNTRY OF PREVIOUS EMPLOYMENT OF FULL-TIME NEW APPOINTMENTS AND STOCK AT CANADIAN UNIVERSITIES, 1976-77

Country of Previous Employment	New Appointments				Stock			
	Business Administration		Total		Business Administration		Total	
	Number	%	Number	%	Number	%	Number	%
Canada	123	69.1	1,528	68.6	768	64.9	15,998	59.6
United States	34	19.1	445	20.0	343	29.0	7,025	26.2
United Kingdom	8	4.5	110	4.9	25	2.1	1,868	7.0
Other Commonwealth	8	4.5			18	1.5	526	2.0
Belgium & France	3	1.7			9	0.8	466	1.7
Other Europe	0	0.0			6	0.5	556	2.1
Other	2	1.1	145*	6.5	15	1.3	416	1.5
Total Reported	178	100.0	2,228	100.0	1,184	100.0	26,855	100.0
Not Reported	27		372		190		4,605	
Total	205		2,600		1,374		31,460	

*Includes Other Commonwealth, Belgium & France and Other Europe.

TABLE C-3

COUNTRY OF PREVIOUS EMPLOYMENT OF FULL-TIME NEW APPOINTMENTS AND STOCK POSSESSING A DOCTORAL DEGREE AT CANADIAN UNIVERSITIES, 1976-77*

Country of Previous Employment	New Appointments				Stock			
	Business Administration		Total		Business Administration		Total	
	Number	%	Number	%	Number	%	Number	%
Canada	23	59.0	496	59.8	141	37.2	6,502	47.8
United States	12	30.8	218	26.3	209	55.1	4,858	35.7
United Kingdom	3	7.7	51	6.1	10	2.6	1,190	8.7
Other Commonwealth	0	0.0	26	3.1	5	1.3	353	2.6
Belgium & France	0	0.0	4	0.5	1	0.3	121	0.9
Other Europe	0	0.0	14	1.7	4	1.1	343	2.5
Other	1	2.6	21	2.5	9	2.4	239	1.8
Total Reported	39	100.0	830	100.0	379	100.0	13,606	100.0
Not Reported	6		61		66		1,523	
Total	45		891		445		15,129	

* Excludes Quebec but includes College Militaire Royale de St. Jean

TABLE C-4

TYPE OF PREVIOUS EMPLOYMENT BY COUNTRY OF PREVIOUS EMPLOYMENT OF FULL-TIME

NEW APPOINTMENTS AT CANADIAN UNIVERSITIES, 1976-77

Type of Previous Employment	Country of Previous Employment												
	Business Administration							Stock					
	Canada	United States	Other	Total Reported	Not Reported	Total	% In Canada*	Canada	United States	Other	Total Reported	Not Reported	Total	% In Canada*
1. University, Teaching	54	19	12	85	0	85	63.5	704	254	142	1,100	6	1,106	64.0
2. University, Non-Teaching	3	1	0	4	0	4	75.0	40	18	5	63	1	64	63.5
3. Other Educ., Teaching	2	2	0	4	0	4	50.0	71	13	7	91	1	92	78.0
4. Other Educ., Non-Teaching	2	1	0	3	0	3	66.7	15	5	1	21	0	21	71.4
5. Student	22	8	4	34	0	34	64.7	307	113	43	463	5	468	66.3
6. Health Care Employment	1	0	0	1	0	1	100.0	93	14	18	125	2	127	74.4
7. Military Employment	0	0	0	0	0	0	-	10	2	1	13	0	13	76.9
8. Government Employment	4	1	1	6	0	6	66.7	111	6	12	129	1	130	86.0
9. Employment in Business	27	0	4	31	1	32	87.1	79	6	8	93	2	95	84.9
10. Self-Employment	5	0	0	5	0	5	100.0	46	4	7	57	3	60	80.7
11. Other	3	0	0	3	0	3	100.0	46	6	6	58	2	60	79.3
Total Reported	123	32	21	176	1	177	69.9	1,522	441	250	2,213	23	2,236	68.8
Not Reported	0	2	0	2	26	28	0.0	6	4	5	15	349	364	40.0
Total	123	34	21	178	27	205	69.1	1,528	445	255	2,228	372	2,600	68.6

*as % of total reported

TABLE D-1

Academic Rank Distribution of Full-time New Appointments and Stock at Canadian Universities, 1976-77

Academic Rank	New Appointments				Stock			
	Business Administration		Total		Business Administration		Total	
	Number	%	Number	%	Number	%	Number	%
Full Professor	11	5.4	177	6.8	238	17.3	7751	24.6
Associate Professor	32	15.6	294	11.3	411	29.9	10716	34.1
Assistant Professor	83	40.5	1179	45.3	409	29.8	8918	28.4
Sub-Total	126	61.5	1650	63.5	1058	77.0	27385	87.0
Others	79	38.5	950	36.5	316	23.0	4075	13.0
Total	205	100.0	2600	100.0	1374	100.0	31460	100.0

TABLE D-2
Rank Distribution of Full-time Stock at Canadian Universities,
by University and Province, 1976-77

Province and University	Discipline	% Distribution by Rank+			% Distribution of Total Full-Time Stock by University
		Full	Associate	Assistant	
Memorial Univ. of Nfld.*	Business Admin.	5.0	45.0	40.0	1.5
	Total	19.1	33.6	40.2	2.7
P.E.I.*	Business Admin.	0.0	25.0	62.5	0.6
	Total	0.9	43.8	42.1	0.4
Acadia	Business Admin.	8.3	50.0	33.3	0.9
	Total	23.0	24.1	25.7	0.6
College Ste. Anne	Business Admin.	0.0	0.0	25.0	0.3
	Total	0.0	23.3	56.7	0.1
Dalhousie	Business Admin.	20.0	43.3	36.7	2.2
	Total	24.7	32.9	31.6	2.7
Mount St. Vincent	Business Admin.	0.0	0.0	35.7	1.0
	Total	5.3	18.9	47.4	0.3
St. Francis Xavier	Business Admin.	0.0	9.1	72.7	0.8
	Total	12.6	39.2	44.3	0.5
St. Mary's	Business Admin.	11.1	33.3	44.4	2.0
	Total	11.6	44.5	35.8	0.6
College of Cape Breton	Business Admin.	0.0	20.0	80.0	0.4
	Total	5.4	47.3	45.4	0.2
Nova Scotia	Business Admin.	9.7	29.1	43.7	7.5
	Total	19.2	33.3	36.0	5.1
Mount Allison	Business Admin.	33.3	16.7	0.0	0.4
	Total	21.7	33.3	30.2	0.4
New Brunswick	Business Admin.	14.3	33.3	38.6	1.5
	Total	24.4	29.8	31.2	2.0
Moncton	Business Admin.	12.0	24.0	40.0	1.8
	Total	7.8	20.4	46.9	1.0
College Jesus-Marie	Business Admin.	0.0	0.0	0.0	0.2
	Total	8.3	0.0	0.0	0.0
College St. Louis/Maillot	Business Admin.	0.0	50.0	0.0	0.1
	Total	3.6	25.4	21.8	0.2
New Brunswick	Business Admin.	14.0	26.3	28.1	4.1
	Total	18.2	27.1	34.6	3.7

* Synonomous with provincial total.

+ As % of total for all ranks including lecturers.

Table D-2 (cont'd)

Province and University	Discipline	% Distribution by Rank+			% Distribution of Total Full-Time Stock by University
		Full	Associate	Assistant	
Bishop's	Business Admin.	33.3	0.0	66.6	0.4
	Total	29.8	34.3	34.3	0.2
College Militaire Royal	Business Admin.	0.0	0.0	0.0	0.4
	Total	26.1	31.9	24.6	0.2
McGill	Business Admin.	25.6	38.5	20.5	2.8
	Total	26.0	41.0	26.4	4.3
Montreal	Business Admin.	25.0	33.3	33.3	0.9
	Total	20.2	32.8	27.0	4.6
Ecole des Hautes Etudes Commerciales	Business Admin.	18.2	27.3	27.3	4.0
	Total	16.7	26.7	37.8	0.3
Quebec	Business Admin.	6.9	5.7	48.3	6.3
	Total	8.1	20.3	40.2	4.1
Laval	Business Admin.	30.8	26.9	30.8	3.8
	Total	26.2	26.8	31.4	4.6
Sherbrooke	Business Admin.	14.3	40.5	42.8	3.1
	Total	15.7	35.5	37.2	2.0
Conçordia	Business Admin.	10.7	32.3	38.5	4.7
	Total	15.3	42.7	35.2	2.2
Québec	Business Admin.	16.5	25.1	36.4	26.4
	Total	19.5	32.0	32.0	22.7

Table D-2 (cont'd)

Province and University	Discipline	% Distribution by Rank+			% Distribution of Total Full-Time Stock by University
		Full	Associate	Assistant	
Brock	Business Admin.	28.6	42.8	28.6	0.5
	Total	25.1	37.9	34.2	0.8
Carleton	Business Admin.	8.3	58.3	16.7	0.9
	Total	27.3	43.6	21.0	2.2
Guelph	Business Admin.	50.0	0.0	25.0	0.3
	Total	29.0	34.1	28.1	2.7
Lakehead	Business Admin.	7.1	35.7	35.7	1.0
	Total	15.8	35.8	36.7	0.8
Laurentian	Business Admin.	12.5	37.5	31.2	1.2
	Total	9.1	27.0	44.5	0.9
College de Hearst	Business Admin.	0.0	0.0	0.0	0.0
	Total	0.0	0.0	0.0	0.0
McMaster	Business Admin.	16.2	29.7	43.2	2.7
	Total	34.6	33.0	27.0	2.8
Ottawa	Business Admin.	15.4	38.5	34.6	1.9
	Total	25.6	31.3	34.6	3.2
Queen's	Business Admin.	19.5	39.0	39.0	3.0
	Total	31.9	37.7	23.7	3.1
Toronto	Business Admin.	37.8	26.7	24.4	3.3
	Total	31.7	35.8	20.7	8.0
Western Ontario	Business Admin.	23.6	25.0	25.0	5.2
	Total	25.6	32.4	33.6	4.5
Windsor	Business Admin.	34.5	44.8	17.2	2.1
	Total	34.8	39.8	22.1	1.7
York	Business Admin.	30.0	32.5	30.0	2.9
	Total	23.1	44.2	23.2	3.6
Wilfrid Laurier	Business Admin.	13.8	24.1	41.4	2.1
	Total	15.5	35.9	36.9	0.7
Royal Military College	Business Admin.	50.0	50.0	0.0	0.1
	Total	17.4	18.7	32.2	0.5
Ryerson Polytechnical	Business Admin.	0.0	0.0	0.0	7.8
	Total	0.0	0.0	0.0	2.2
Ontario	Business Admin.	18.0	25.3	23.7	35.1
	Total	26.2	33.8	25.4	37.9

Table D-2 (cont'd)

Province and University	Discipline	% Distribution by Rank+			% Distribution of Total Full-Time Stock by University
		Full	Associate	Assistant	
Manitoba*	Business Admin.	25.5	37.2	29.4	3.7
	Total	27.8	37.0	29.2	4.3
Saskatchewan (Saskatoon)	Business Admin.	27.3	43.2	20.4	3.2
	Total	34.6	39.2	20.1	3.2
Saskatchewan (Regina)	Business Admin.	11.8	52.9	26.5	2.5
	Total	22.7	39.9	23.5	1.2
Saskatchewan	Business Admin.	20.5	47.4	23.1	5.7
	Total	31.3	16.1	21.0	4.5
Alberta	Business Admin.	30.9	52.7	5.4	4.0
	Total	35.0	38.2	18.0	5.4
Calgary	Business Admin.	10.8	56.8	32.4	2.7
	Total	29.0	40.6	24.2	3.2
Canadian Union College	Business Admin.	0.0	0.0	0.0	0.0
	Total	0.0	0.0	0.0	0.0
Lethbridge	Business Admin.	0.0	100.0	0.0	0.1
	Total	12.3	55.2	29.2	0.5
Alberta	Business Admin.	22.5	53.7	15.8	6.9
	Total	31.6	40.1	20.9	9.1
British Columbia	Business Admin.	20.2	33.0	33.0	6.8
	Total	29.4	28.7	33.1	6.4
Simon Fraser	Business Admin.	13.6	31.8	31.8	1.6
	Total	25.0	37.0	30.3	1.5
Victoria	Business Admin.	0.0	0.0	100.0	0.1
	Total	18.4	39.7	27.3	1.7
British Columbia	Business Admin.	18.8	32.5	33.3	8.5
	Total	26.8	31.9	31.6	9.6
Canada	Business Admin.	23.5	40.9	40.3	100.0
	Total	29.3	32.9	27.4	100.0

TABLE D-3

DUTIES PERFORMED BY FULL-TIME NEW APPOINTMENTS AND STOCK AT CANADIAN UNIVERSITIES, 1976-77

University Duties	New Appointments				Stock			
	Business Administration		Total		Business Administration		Total	
	Number	%	Number	%	Number	%	Number	%
Teacher	178	86.8	2,175	83.6	1,199	87.3	27,539	87.5
Dean	2	1.0	22	0.8	19	1.4	406	1.3
Assistant Dean	1	0.5	4	0.2	19	1.4	347	1.1
Director +	0	0.0	7	0.3	5	0.4	112	0.4
Director, Dept. Head*	2	1.0	31	1.2	51	3.7	1,500	4.8
Chairman	3	1.5	17	0.6	29	2.1	725	2.3
Visitor	18	8.8	334	12.9	30	2.2	566	1.8
Other	1	0.5	10	0.4	22	1.6	265	0.8
Total Reported	205	100.0	2,600	100.0	1,374	100.0	31,460	100.0
Not Reported	0		0		0		0	
Total	205		2,600		1,374		31,460	

+ Has the responsibilities and salary equivalent to those of a dean.
* Does not have the responsibilities or salary equivalent to those of a dean.

Table D-4

Number of Years Since Appointment of Full-time University Stock to Present Institution, 1976-77*

Number of Years Since Appointment	Business Administration		All Faculty		Business Administration
	No.	%	No.	%	% of Total
1 or less[x]	154	15.2	2015	8.2	7.6
2	134	13.2	1862	7.6	7.2
3	108	10.6	1593	6.5	6.8
Sub-Total 1-3	396	39.0	5470	22.2	7.2
4	72	7.1	1402	5.7	5.1
5	55	5.4	1318	5.4	4.2
6	59	5.8	1660	6.7	3.6
7	73	7.2	1828	7.4	4.0
8	65	6.4	2085	8.5	3.1
9	56	5.5	1888	7.7	3.0
Sub-Total 1-9	776	76.5	15651	63.6	5.0
10 - 14	161	15.9	5734	23.3	2.8
15 - 19	45	4.4	1748	7.1	2.6
20 - 30	29	2.9	1165	4.7	2.5
30 or more	4	0.4	304	1.2	1.3
Total Reported	1015	100.0	24602	100.0	4.1
Not Reported	1		193		
Total	1016		24795		4.1

* Excludes Quebec but includes Militaire / x Includes appointments in Current Year.

TABLE D-5

Salary Structure of Full-time Stock at Canadian Universities, 1976-77*

Salary $	Full Professor				Associate Professor				Assistant Professor				Total (All Ranks) +			
	Business Administration		Total		Business Administration		Total		Business Administration		Total		Business Administration		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
14999 and under	0	0.0	10	0.2	0	0.0	12	0.2	1	0.4	80	1.6	47	5.4	715	3.9
15000-19999	0	0.0	16	0.3	3	1.1	170	2.7	98	40.8	2548	51.6	160	18.5	3733	20.3
20000-24999	0	0.0	48	1.0	101	36.6	3099	48.6	128	53.3	2088	42.3	267	30.9	5516	30.0
25000-29999	29	21.5	953	20.5	132	47.8	2662	41.7	12	5.0	206	4.2	232	26.8	4268	23.2
30000-34999	47	34.8	1658	35.7	35	12.7	400	6.3	1	0.4	11	0.2	91	10.5	2134	11.6
35000-39999	32	23.7	1259	27.1	5	1.8	32	0.5	0	0.0	0	0.0	40	4.6	1311	7.1
40000-44999	15	11.1	531	11.4	0	0.0	5	0.1	0	0.0	0	0.0	16	1.8	544	3.0
45000 and over	12	8.9	171	3.7	0	0.0	1	0.0	0	0.0	0	0.0	12	1.4	173	0.9
Total	135	100.0	4646	100.0	276	100.0	6381	100.0	240	100.0	4933	100.0	865	100.0	18394	100.0
Median Salary ($) ..	34393		33837		26220		24891		20568		19785		24057		24260	
Difference in median salary	+556				+ 1329				783				- 203			

* Excludes Quebec but includes College Militaire Royal de St. Jean; excludes faculty on study or sabbatical leave, medical and dental faculty, faculty belonging to religious orders, and faculty on staff less than 12 months during the 1976-77 academic year. The salary is actual gross salary including vacation pay.

+ Includes lecturers and other ranks below assistant professors.

+9

INCOME PATTERNS OF BUSINESS GRADUATES AND THOSE IN OTHER SELECTED DISCIPLINES IN THE MID-1970'S

by

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and

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and
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PREFACE

This is one of a series of joint studies prepared by the Council of Deans of Faculties of Management and Business Administration and the Institutions and Public Finance Branch, Statistics Canada. (1) The present study is designed to determine the income patterns of business graduates relative to those of graduates in other selected disciplines. The project was developed in conjunction with the Chairman of the Council of Deans, Dean Max Clarkson, Faculty of Management Studies, University of Toronto.

A comprehensive study on economic returns to education is currently being conducted by Max von Zur-Muehlen. The present report includes some of the data to be used in the larger study.

A preliminary version of this report was presented to the members of the Council of Deans at their annual meeting on 7-8 November and has benefitted from the comments made there. The reader is urged to consult the tables for more detailed information than is presented in the descriptive analysis.

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(1) Other studies prepared for the November 1977 Annual Meeting of the Council of Deans are: "Canada Council and Administrative Studies: Funding Patterns in the Mid-1970's" (by Donald M. Caskie); "Business Faculty at Canadian Universities in the Mid-1970's" (by Donald M. Caskie, Alf Chaiton and Max von Zur-Muehlen); "Employment Patterns of Administrative Studies Graduates in the Federal Public Service in the 1970's (A Statistical Profile)" (by Donald M. Caskie and Max von Zur-Muehlen); "An Analysis of the Bronfman Foundation Seagram Business Fellowship Program" (by Max von Zur-Muehlen and Donald M. Caskie); and "National Research Council Support for University Management Education - A Preliminary Description" (by Alf Chaiton).

Written comments on this report are welcomed and should be addressed to the Chairman of the Council of Deans or to Max von Zur-Muehlen at Statistics Canada.

Acknowledgement

We wish to express our appreciation to Mrs. Christine Jolicoeur and Mrs. E. Kealey for typing and clerical assistance; and to Alf Chaiton for his editorial assistance.

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INCOME PATTERNS OF BUSINESS GRADUATES AND THOSE IN OTHER SELECTED DISCIPLINES IN THE MID-1970'S

Introduction

This paper is designed to show the income patterns of university degree-holders in business administration and other selected disciplines by degree level by age. From the Post-Censal Highly Qualified Manpower Survey, 1973, unpublished information is available on the average annual employment incomes of males working 40 - 52 weeks per year by age level in 1973. (1) The data also indicates the academic disciplines studied and the last highest degree obtained.

(1) The incomes of males were used as males have more consistent earning patterns than females over long periods of time and are less subject to fluctuations in participation, particularly when specific age groups are considered. Income from wages and salaries is before tax (personal) income; income from self-employment is net of operational expenses and is also before tax (personal) income.
As with most personal financial information collected in surveys, a considerable amount of caution needs to be excercized in using the data. This is especially the case when the number of respondents is fairly small as here. Relatively small numbers populate cells when cross tabulations of discipline X degree-level X age for males only are produced. When the numbers of respondents are small (e.g., for the doctoral information), the underestimation or overestimation of income or the accurate reporting of small numbers of very high or very low incomes takes on a significance much greater than similar reporting by a large number of respondents. The taxation data presented in the Appendix is probably more reliable than that from the 1973 survey because of the enforcement procedures available.
Another joint project of the Council of Deans of Faculties of Management and Business Administration and of Statistics Canada will develop and analyze a time-series on starting salaries for graduates in the same disciplines used in this study.
For recent background information on business education, the reader is advised to consult: Max von Zur-Muehlen, " University Business Education During the Sixties and Seventies", Institutions and Public Finance Branch, Statistics Canada, April 10, 1977.

The following disciplines, in addition to business, are included in this comparison: chemistry, economics, engineering, English, history and sociology.

Although the private cost of educational investment is not being studied in this report, some general comments might be helpful. Private costs are composed of two components: direct costs and forgone earnings. In comparing the incomes of male graduates in business with those in other disciplines, it is assumed that for each degree level the direct private costs (e.g., tuition) involved in obtaining the degree are similar among the disciplines selected. However, the forgone earnings for students in disciplines such as business and engineering which generally have had higher starting salaries are likely to be greater than for students in the other disciplines studied. Accordingly, the returns for business and engineering graduates should really be discounted for this difference in forgone earning potential.

The income patterns of business administration graduates for almost all levels and for most age groups compare very favourably with the disciplines of economics and engineering and are considerably better than the disciplines of chemistry, English, history and sociology. The comparative returns are better for business students at the graduate

than at the undergraduate level. Holders of professional degrees in medicine and law, however, still have higher average employment incomes than those in business, but the economic investment is also noticeably different.(1)

INCOME PATTERNS BY DEGREE-LEVEL, BY AGE

We can now look at the average incomes of graduates from our selected disciplines according to the last highest earned degree.
Information will be presented on: (a) all degree holders combined, by age; (b) general undergraduate degree holders, by age;(2) (c) specialized undergraduate degree holders, by age;(2) (d) master's degree holders, by age; and (e) doctoral degree holders, by age.

All Degree-Holders Combined, by Age (Tables 1 and 2)

Business and engineering graduates have similar average incomes and both are considerably ahead of the other disciplines selected. Engineering incomes are as high as those of business graduates at both ends of the age spectrum (24 - 28, and 54 and older), but business graduates have higher incomes for the years in-between. However, economics graduates

(1) Information is presented in Tables 1 and 2 on these disciplines for comparative purposes only, and no detailed commentary has been prepared on them.

(2) The general undergraduate degree is usually a three-year pass degree while the specialized undergraduate degree is, in most instances, a four-year honours bachelor-level degree.

have higher incomes than those in business in the normal peak earning-period (i.e., 44 - 53).

General Undergraduate Degree-Holders, By Age (Tables 3 and 4)

Business graduates earn noticeably more than the other disciplines at this degree-level. The average income of sociologists is only 71% of that of business graduates. Economists have incomes averaging 88% of business B.A.'s.

The average incomes for all males, regardless of discipline, are greater than business B.A.'s, largely because of the influence of the income of those with medical and law degrees.

In the United States, Freeman says that the same general pattern prevails; but in regard to starting salaries, he states:

> "among beginning bachelor's graduates, the differential in the starting pay between accounting, business and commerce graduates in production management or sales on the one hand and liberal arts or science graduates on the other increased markedly. In 1968, accountants earned 11% more than liberal arts graduates and 6% less than mathematics graduates; in 1975, their salary was 28% higher than the salary of liberal arts graduates, according to the Endicott Survey, and 8% higher than that of their mathematics counterparts. Similarly, the advantage for production managers and sales and marketing personnel grew, though that for general business trainees did not". (1)

Economists have higher incomes than those in business in two age groups: 29 - 33, and 39 - 43. For all other age-groups, business B.A.'s had larger incomes than any of the other disciplines studied.

(1) R.B. Freeman, The Over-Educated American, (New York, 1976), p. 130.

Specialized Undergraduate Degree-Holders, by Age (Tables 5 and 6)

Engineers with specialized undergraduate degrees have slightly larger incomes than business graduates, while economists have the same average income as those with specialized bachelor of business administration degrees (B.B.A.'s). For the other disciplines under study, the differences with business are larger; for instance, the average income of sociologists is 68% that of either B.B.A.'s or economists. Economists have similar incomes to B.B.A.'s in the 24 - 28 and 34 - 38 age-groups and a considerably higher average income in the 44 - 53 age-group. Engineers have negligibly larger average income than B.B.A.'s in the age-group, 24 - 28. For all other age-groups though, B.B.A.'s earn a higher income than those in any of the other disciplines under study.

Master's Degree, by Age (Tables 7 and 8)

Holders of master's of business administration degrees (M.B.A.) have higher average incomes than any of the other disciplines being considered. This is true regardless of age-group. Economists and engineers come closest to M.B.A.'s, but still have average incomes lower by 6% and 14%, respectively. English, history, and sociology each have an average income only about three-quarters that of business graduates. (1)

(1) In the United States, a similar situation exists, with M.B.A.'s and master's degree holders in accounting far surpassing holders of other master's degrees in terms of average income (see Freeman, op. cit., especially pp. 132 - 133).

Doctoral Degree-Holders,by Age (Tables 9 and 10)

The differentials in average income between business doctorates and those in other disciplines are greater than those in evidence at the master's level. Economists' incomes are 85% those of business doctorates, while those of historians and English doctorates are 62% and 64%,respectively. Except for the average incomes of economists and engineers in the age group 44 - 53, business doctorates receive more income than any other discipline studied, regardless of age. In some cases, the income of business doctorates is more than twice that of Ph.D.'s in other disciplines; for example, in the age group 29 - 33, this is so for doctorates in chemistry and English.

Comparison of Incomes Between Degree-Levels,by Age

Given the increased investment needed to obtain each more advanced degree , compensating income differentials for the graduates from these programs are to be expected. This section looks at these differentials.

Table A reveals that business administration graduates have the highest average annual employment income of three of the four types of degree-holders (i.e., general undergraduate, masters, and doctoral

Table A

Male Income Differentials Between Degree Levels for Business Administration and Selected Disciplines, Canada, 1973 ≠

Discipline	AVERAGE ANNUAL EMPLOYMENT INCOME ($)				PERCENTAGES					
	Undergraduate Degree		Graduate Degree		As % of General Undergraduate Degree			As % of Specialized Undergraduate Degree		As % of Masters Degree
	General	Specialized	Masters	Doctoral	Specialized Undergraduate	Masters	Doctoral	Masters	Doctoral	Doctoral
Business Administration	17,100	18,600	20,800	28,800	109	122	168	112	155	138
Chemistry	13,800	15,700	15,700	19,500	114	114	141	100	124	124
Economics	15,000	18,600	19,500	24,500	124	130	163	105	132	126
Engineering	..	18,800	17,900	20,200	-	-	-	96	109	113
English	12,700	16,000	14,800	18,300	126	117	144	93	114	124
History	13,000	13,900	15,200	17,900	107	117	138	109	129	118
Sociology	12,200	12,700	14,800	19,400	104	121	159	117	153	131

≠ Persons who worked 40 - 52 weeks in last 12 months; degree is last highest earned degree

.. Too few respondents to permit release of data

Source: Statistics Canada, in conjunction with Ministry of State for Science and Technology, Post-Censal Highly Qualified Manpower Survey, 1973, Table 30.

degrees) and the second greatest income in the other (i.e., specialized undergraduate degree holders), close behind engineers. However, other disciplines have higher differentials between degree-levels than business administration, except when the doctorate is considered.

Compared with the general bachelor's degree holders, the differentials are greater for holders of specialized undergraduate degrees in economics, history and, to a lesser extent, chemistry than in business.

The economist with a specialized undergraduate degree has an income 24% greater than the economist with a general degree, and the master's degree-holder in this discipline has an income 30% above that of his fellow economist having only a general B.A. The comparable percentages for the business graduate are 9% and 22%. (1) On the other hand, business doctorates earn 68% more per year than do holders of general B.B.A.'s, while economics doctorates earn 63% more than holders of general undergraduate degrees in economics; for history, the increase is 38%. (2)

(1) In the mid-1960's, it is interesting to note that Dodge and Stager reported that the private return to investment in the M.B.A. degree following a bachelor degree in science was much greater than the return to other degrees. It should be noted,though,that they only compared business with natural and physical science and engineering degrees. D.A. Dodge and D.A.A. Stager,"Economic Returns to Graduate Study in Science, Engineering and Business", Canadian Journal of Economics, May, 1972, p. 196.

(2) In the United States, Freeman states the case is somewhat different: "Students graduating with M.B.A.'s obtained exceptionally rapid increases in starting salaries in the period of overall market depression. From 1968 to 1975, the College Placement

(footnote 2 continued next page)

In comparing the incomes of master's and doctoral degree-holders to those of specialized undergraduate degree-holders, business displays the greatest differential at the doctoral level and the second highest, behind sociology, at the master's level. Business doctorates earn 55% more than specialized B.B.A.'s, while their sociology counterparts make 53% more. Sociologists with master's degrees gain 17% higher incomes than sociologists with specialized bachelor's degrees; M.B.A.'s earn 12% greater incomes than specialized B.B.A.'s.

The differences between doctoral and master's incomes are greater for business graduates than for other graduates. Business doctorates make 38% more than M.B.A.'s. Sociologists have the second highest differential of the disciplines studied with their doctorates earning 31% higher income. The differential for historians is the lowest at 18%.

(footnote 2 continued from previous page)
Council showed M.B.A. starting pay up by 5.25% annually, compared to 3.5% for social science and humanities graduates and 2.5% for beginning B.S. chemists. Master's degree engineers also did not fare as well as M.B.A.'s, though bachelor's engineers did only slightly worse. The starting rates for Harvard Business School M.B.A. graduates rose even more rapidly, by 6% per annum over the period.

In contrast to the situation of other postgraduate fields, moreover, the premium of an M.B.A. over a bachelor's degree grew rather than decreased and the real (1967) dollar differential in monthly pay between the levels of training nearly doubled, from $158 to $302. As a result, while the rate of return to other master's degrees was falling, that for M.B.A.'s appears to have risen. Among master's graduates specializing in accounting, salaries rose to exceed those of master's in engineering. In some critical areas, such as corporate finance, companies report 'all recruiting is at the M.B.A. level'"(Freeman, op. cit., p. 132).

Tables 11 through 16 develop similar information on income differentials, but qualified by the specific age-group of the graduates. Because of the great variations in evidence for each age-group, this information has been summarized in Table B which ranks business differentials in comparison with those of the other disciplines under study. Out of a total of 36 categories for the six age-groups, business had the highest differential in 16 cases, the second highest in 7 instances, and the third highest in 5 cases. Thus, business was either the first, second or third highest in the 36 categories almost 80% of the time. Business had by far more first places than any other single discipline studied.

Table B
(Summary of Tables 11-16)

Ranking of Inter-Degree Levels of Business Graduates in Comparison with Other Selected Disciplines *

Age Group	Relative to General Undergraduate Degree			Relative to Specialized Undergraduate Degree		Relative to Masters Degree
	Specialized Undergraduate	Masters	Doctorate	Masters	Doctorate	Doctorate
24 - 28	5	2	-	1	-	-
29 - 33	3	1	1	2	1	1
34 - 38	3	2	1	2	1	3
39 - 43	1	1	1	2	1	1
44 - 53	3	1	5	1	7	7
54 and over	2	3	1	4	2	1
Total	3	2	1	2	1	1

* The higher the differential the higher the ranking; the other disciplines are chemistry, economics, engineering, English, history, and sociology.

One can only speculate at this time on the reasons for the ordering of these differentials. Whatever the full explanation, it seems probable that the type of occupation and the changing educational requirements for certain occupations over time figure prominently in any analysis. Some occupations earn more than others but to enter these occupations the study of certain disciplines is either preferred or essential. While this is more evident in the physical and medical sciences and engineering, it has also become increasingly so in the human science disciplines - economics and psychology are two such examples.

This is particularly so for those occupations requiring high levels of technical and intellectual sophistication and organizational talents. The minimum qualifications for entry into some occupations have risen over the course of the past few decades. The master's degree is more and more becoming the expected minimum qualification for psychologists, economists, and specialized management personnel (e.g., those in finance). The prime qualification for university teachers in most disciplines is now the doctorate.

Looking only at doctorates, we see that some disciplines are more oriented

to certain occupations than others. By 1973, 88% of the English doctorates in Canada were teaching university, but only 60% of the economics doctoral degree-holders were in this occupation. The respective percentages for business and history were 69 and 84.(1)

Conclusion

The average incomes of business graduates compare very favourably with the income of those who studied in other disciplines. This is the case whether one considers either absolute income or income differentials between degree-levels. In most categories, whether one looks at their performance by age or by degree-level, they financially outperform their closest competitors, the economists and the engineers. However, they still fall short of professionals in law and medicine in average income earned, but the investment structure or the education of professionals in law and medicine differs considerably from that of business graduates. The above assessment refers only to the year 1973,

(1) Max von Zur-Muehlen, "Profile of Ph.D.'s in Canada", Canadian Statistical Review, Volume 51, Number 7, July 1976, p. 142.

but a cautious interpretation of information from taxation data (see Appendix) would lead one to believe that the 1973 result is not atypical and that the financial performance of business graduates has continued or even improved since then. Similarly, the recent study by Freeman has shown that these trends have manifested themselves in the United States as well.

Table 1

Average Employment Income ($) of Males with a University Degree in Selected Disciplines, by Age Group, Canada, 1973 ≠

Discipline	AGE							
	23 and Under	24 - 28	29 - 33	34 - 38	39 - 43	44 - 53	54 and Older	Total
Business Administration	9,400	11,500	16,300	20,400	23,400	23,100	23,000	18,600
Chemistry	..	10,100	12,600	14,700	17,800	20,600	21,700	16,100
Economics	7,800	10,600	15,900	18,600	21,400	24,000	21,800	17,500
Engineering	9,000	11,500	14,700	18,200	20,300	22,500	23,200	18,700
English	..	8,800	13,100	15,200	16,900	18,600	18,500	14,400
History	..	9,400	12,600	14,800	17,300	19,200	17,300	13,800
Sociology	..	9,900	13,200	15,600	17,900	18,100	16,100	13,500
Medicine, surgery	..	15,400	26,100	39,000	41,700	42,400	34,700	36,400
Law	..	10,000	19,000	26,400	30,600	32,100	27,200	24,200
Total Male *	8,000	10,600	14,500	18,300	21,000	22,600	21,000	17,800
Total (Both Sexes) *	7,300	10,000	13,900	17,500	19,700	21,000	19,400	16,400

≠ Persons who worked 40 to 52 weeks full-time in the last 12 months; degree is last highest earned degree.

* All disciplines and all degree and diploma levels, including medical and first professional degrees.

Source: Statistics Canada, in conjunction with Ministry of State for Science and Technology, Post-Censal Highly Qualified Manpower Survey, 1973, Table 30.

.. Too few respondents to permit release of data.

Table 2

Average Employment Income ($) of Males with a University Degree in Selected Disciplines, by Age Group, Canada, 1973, as % of Business Administration ≠

Discipline	AGE							
	23 and Under	24 - 28	29 - 33	34 - 38	39 - 43	44 - 53	54 and Older	Total
Business Administration	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Chemistry	-	87.8	77.3	72.1	76.1	89.2	94.3	86.6
Economics	83.0	92.2	97.5	91.7	91.5	103.9	94.8	94.1
Engineering	95.7	100.0	90.2	89.2	86.8	97.4	100.9	100.5
English	-	76.5	80.4	74.5	72.2	80.5	80.4	77.4
History	-	81.7	77.3	72.5	73.9	83.1	75.2	74.2
Sociology	-	86.1	81.0	76.5	76.5	78.4	70.0	72.6
Medicine, surgery	-	133.9	160.1	191.2	178.2	183.5	150.9	195.7
Law	-	87.0	116.6	129.4	130.8	139.0	118.3	130.1
Total Male*	85.1	92.2	89.0	89.7	89.7	97.8	91.3	95.7
Total (Both Sexes)*	77.6	87.0	85.3	85.8	84.2	90.9	84.3	88.2

≠ Persons who worked 40 to 52 weeks full-time in the last 12 months; degree is last highest earned degree.

* All disciplines and all degree and diploma levels, including medical and first professional degrees.

Source: Statistics Canada, in conjunction with Ministry of State for Science and Technology, Post-Censal Highly Qualified Manpower Survey, 1973, Table 30.

Table 3

Average Employment Income ($) of Males with a General Undergraduate Degree in Selected Disciplines, by Age Group, Canada, 1973 ≠

Discipline	AGE							
	23 and Under	24 - 28	29 - 33	34 - 38	39 - 43	44 - 53	54 and Older	Total
Business Administration	11,200	11,000	15,000	18,400	20,800	20,300	28,000	17,100
Chemistry	..	9,700	12,400	12,300	16,600	17,400	19,400	13,800
Economics	7,600	10,000	15,800	15,700	20,900	18,900	19,100	15,000
Engineering	..	..	..	..	..	..	..	..
English	..	8,300	12,500	15,300	17,000	16,400	14,100	12,700
History	..	9,200	12,200	14,900	16,800	19,300	14,800	13,000
Sociology	..	9,700	13,300	14,900	..	16,200	15,000	12,200
Total Male*	8,000	10,600	14,500	18,300	21,000	22,600	21,000	17,800
Total (Both Sexes)*	7,300	10,000	13,900	17,500	19,700	21,100	19,400	16,400

≠ Persons who worked 40 to 52 weeks full-time in the last 12 months; degree is last highest earned degree.

* All disciplines and all degree and diploma levels, including medical and first professional degrees.

Source: Statistics Canada, in conjunction with Ministry of State for Science and Technology, Post-Censal Highly Qualified Manpower Survey, 1973, Table 30.

.. Too few respondents to permit release of data.

Table 4

Average Employment Income ($) of Males with a General Undergraduate Degree in Selected Disciplines, by Age Group, Canada, 1973, as % of Business Administration Income ≠

Discipline	AGE							
	23 and Under	24 - 28	29 - 33	34 - 38	39 - 43	44 - 53	54 and Older	Total
Business Administration	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Chemistry	-	88.2	82.7	66.8	79.8	85.7	93.3	80.7
Economics	67.8	90.9	105.3	85.3	100.1	93.1	91.8	87.7
Engineering	-	-	-	-	-	-	-	-
English	-	75.4	83.3	83.2	81.7	80.8	67.8	74.3
History	-	83.6	81.3	81.0	80.8	95.1	71.2	76.0
Sociology	-	88.2	88.7	81.0	-	79.8	72.1	71.3
Total Male*	71.4	96.4	96.7	99.4	101.0	111.3	101.0	104.1
Total (Both Sexes)*	65.2	90.9	92.7	95.1	94.7	103.9	93.3	95.9

≠ Persons who worked 40 to 52 weeks full-time in the last 12 months; degree is last highest earned degree.

* All disciplines and all degree and diploma levels, including medical and first professional degrees.

Source: Statistics Canada, in conjunction with Ministry of State for Science and Technology, Post-Censal Highly Qualified Manpower Survey, 1973, Table 30.

Table 5

Average Employment Income ($) of Males with a Specialized Undergraduate Degree in Selected Disciplines, by Age Group, Canada, 1973 ≠

Discipline	AGE							
	23 and Under	24 - 28	29 - 33	34 - 38	39 - 43	44 - 53	54 and Older	Total
Business Administration	..	11,300	15,500	20,200	24,200	24,400	23,300	18,600
Chemistry	0	10,400	12,000	15,100	17,300	19,700	18,400	15,700
Economics	..	11,400	14,700	20,200	20,800	26,600	21,100	18,600
Engineering	9,200	11,500	14,600	15,200	20,200	22,300	23,000	18,800
English	0	10,600	14,600	14,800	17,200	20,200	21,300	16,000
History	0	9,800	13,100	14,200	18,600	18,700	16,100	13,900
Sociology	0	9,600	12,400	15,600	..	20,700	9,000	12,700
Total Male*	8,000	10,600	14,500	18,300	21,000	22,600	21,000	17,800
Total (Both Sexes)*	7,300	10,000	13,900	17,500	19,700	21,000	19,400	16,400

≠ Persons who worked 40 to 52 weeks full-time in the last 12 months; degree is last highest earned degree.

* All disciplines and all degree and diploma levels, including medical and first professional degrees.

Source: Statistics Canada, in conjunction with Ministry of State for Science and Technology, Post-Censal Highly Qualified Manpower Survey, 1973, Table 30.

.. Too few respondents to permit release of data.

Table 6

Average Employment Income ($) of Males with a Specialized Undergraduate Degree in Selected Disciplines, by Age Group, Canada 1973, as % of Business Administration Income ≠

Discipline	AGE							
	23 and Under	24 - 28	29 - 33	34 - 38	39 - 43	44 - 53	54 and Older	Total
Business Administration	-	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Chemistry	-	92.0	77.4	74.8	71.5	80.7	79.0	84.4
Economics	-	100.9	94.8	100.0	86.0	109.0	90.6	100.0
Engineering	-	101.8	94.2	75.2	83.5	91.4	98.7	101.1
English	-	93.8	94.2	73.3	71.1	82.8	91.4	86.0
History	-	86.7	84.5	70.3	76.8	76.6	69.1	74.7
Sociology	-	85.0	80.0	77.2	-	84.8	38.6	68.3
Total Male*	-	93.8	93.5	90.6	86.8	92.6	90.1	95.7
Total (Both Sexes)*	-	88.5	89.7	86.6	81.4	86.1	83.3	88.2

≠ Persons who worked 40 to 52 weeks full-time in the last 12 months; degree is last highest earned degree.

* All disciplines and all degree and diploma levels, including medical and first professional degrees.

Source: Statistics Canada, in conjunction with Ministry of State for Science and Technology, Post-Censal Highly Qualified Manpower Survey, 1973, Table 30.

Table 7

Average Employment Income ($) of Males with a Master's Degree in Selected Disciplines, by Age Group, Canada, 1973 ≠

Discipline	AGE							
	23 and Under	24 - 28	29 - 33	34 - 38	39 - 43	44 - 53	54 and Older	Total
Business Administration	..	13,000	18,300	22,700	26,000	27,500	26,500	20,800
Chemistry	0	11,100	12,400	13,300	17,600	20,800	20,400	15,700
Economics	0	12,300	17,900	20,600	22,600	23,200	24,300	19,500
Engineering	..	11,800	15,000	17,900	20,600	22,600	24,500	17,900
English	0	9,400	13,400	15,600	16,100	16,700	17,800	14,800
History	0	9,700	13,000	14,600	16,500	18,500	19,400	15,200
Sociology	..	10,900	13,400	14,600	19,700	17,000	19,700	14,800
Total Male*	8,000	10,600	14,500	18,300	21,000	22,600	21,000	17,800
Total (Both Sexes)*	7,300	10,000	13,900	17,500	19,700	21,000	19,400	16,400

≠ Persons who worked 40 to 52 weeks full-time in the last 12 months; degree is last highest earned degree.

* All disciplines and all degree and diploma levels, including medical and first professional degrees.

Source: Statistics Canada, in conjunction with Ministry of State for Science and Technology, Post-Censal Highly Qualified Manpower Survey, 1973, Table 30.

.. Too few respondents to permit release of data.

Table 8

Average Employment Income ($) of Males with a Master's Degree in Selected Disciplines, by Age Group, Canada, 1973, as % of Business Administration Income ≠

Discipline	AGE							
	23 and Under	24 - 28	29 - 33	34 - 38	39 - 43	44 - 53	54 and Older	Total
Business Administration	-	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Chemistry	-	85.4	67.8	58.6	67.7	75.6	77.0	75.5
Economics	-	94.6	97.8	90.7	86.9	84.4	91.7	93.8
Engineering	-	90.8	82.0	78.8	79.2	82.2	92.4	86.0
English	-	72.3	73.2	68.7	61.9	60.7	67.2	71.2
History	-	74.6	71.0	64.3	63.5	67.3	73.2	73.1
Sociology	-	83.8	73.2	64.3	75.8	61.8	74.3	71.2
Total Male*	-	81.5	79.2	80.6	80.8	82.2	79.2	85.6
Total (Both Sexes)*	-	76.9	76.0	77.1	75.8	76.4	73.2	78.8

≠ Persons who worked 40 to 52 weeks full-time in the last 12 months; degree is last highest earned degree.

* All disciplines and all degree and diploma levels, including medical and first professional degrees.

Source: Statistics Canada, in conjunction with Ministry of State for Science and Technology, Post-Censal Highly Qualified Manpower Survey, 1973, Table 30.

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Table 9

Average Employment Income ($) of Males with a Doctoral Degree in Selected Disciplines, by Age Group, Canada, 1973 ≠

Discipline	AGE							
	23 and Under	24 - 28	29 - 33	34 - 38	39 - 43	44 - 53	54 and Older	Total
Business Administration	0	0	26,900	27,100	28,300	26,200	46,600	28,800
Chemistry	0	9,400	13,400	17,200	18,900	24,200	29,000	19,500
Economics	0	12,300	17,400	20,200	23,600	31,200	34,500	24,500
Engineering	0	12,900	15,400	18,800	21,800	27,300	24,700	20,200
English	0	..	12,800	14,200	17,500	22,800	25,500	18,300
History	0	..	14,100	17,000	17,300	21,200	21,700	17,900
Sociology	0	..	14,200	18,300	19,500	23,000	23,800	19,400
Total Male*	8,000	10,600	14,500	18,300	21,000	22,600	21,000	17,800
Total (Both Sexes)*	7,300	10,000	13,900	17,500	19,700	21,000	19,400	16,400

≠ Persons who worked 40 to 52 weeks full-time in the last 12 months; degree is last highest earned degree.

* All disciplines and all degree and diploma levels, including medical and first professional degrees.

Source: Statistics Canada, in conjunction with Ministry of State for Science and Technology, Post-Censal Highly Qualified Manpower Survey, 1973, Table 30.

.. Too few respondents to permit release of data.

Table 10

Average Employment Income ($) of Males with a Doctoral Degree in Selected Disciplines, by Age Group, Canada, 1973, as % of Business Administration Income ≠

Discipline	AGE							
	23 and Under	24 - 28	29 - 33	34 - 38	39 - 43	44 - 53	54 and Older	Total
Business Administration	-	-	100.0	100.0	100.0	100.0	100.0	100.0
Chemistry	-	-	49.8	63.5	66.8	92.4	62.2	67.7
Economics	-	-	64.7	74.5	83.4	113.1	74.0	85.1
Engineering	-	-	57.2	69.4	77.0	104.2	53.0	70.1
English	-	-	47.6	52.4	61.8	87.0	54.7	63.5
History	-	-	52.4	62.7	61.1	80.9	46.6	62.2
Sociology	-	-	52.7	67.5	68.9	87.8	51.1	67.4
Total Male*	-	-	53.9	67.5	74.2	86.2	45.1	61.8
Total (Both Sexes)*	-	-	51.7	64.6	69.6	80.2	41.6	56.9

≠ Persons who worked 40 to 52 weeks full-time in the last 12 months; degree is last highest earned degree.

* All disciplines and all degree and diploma levels, including medical and first professional degrees.

Source: Statistics Canada, in conjunction with Ministry of State for Science and Technology, Post-Censal Highly Qualified Manpower Survey, 1973, Table 30.

Table 11

Male Income Differentials Between Degree Levels for Degree Holders Age 24-28 in Business Administration and Selected Disciplines, Canada, 1973 ≠

Discipline	AVERAGE ANNUAL EMPLOYMENT INCOME ($)				PERCENTAGES					
	Undergraduate Degree		Graduate Degree		As % of General Undergraduate Degree			As % of Specialized Undergraduate Degree		As % of Masters Degree
	General	Specialized	Masters	Doctoral	Specialized Undergraduate	Masters	Doctoral	Masters	Doctoral	Doctoral
Business Administration	11,000	11,300	13,000	0	102.7	118.2	0.0	115.0	0.0	0.0
Chemistry	9,700	10,400	11,100	9,400	107.2	114.4	96.9	106.7	90.4	84.7
Economics	10,000	11,400	12,300	12,300	114.0	123.0	123.0	107.9	107.9	100.0
Engineering	..	11,500	11,800	12,900	—	—	—	102.6	112.2	109.3
English	8,300	10,600	9,400	..	127.7	113.3	—	88.7	—	—
History	9,200	9,800	9,700	..	106.5	105.4	—	99.0	—	—
Sociology	9,700	9,600	10,900	..	99.0	112.4	—	113.5	—	—

≠ Persons who worked 40 - 52 weeks in last 12 months; degree is last highest earned degree

.. Too few respondents to permit release of data

Source: Statistics Canada, in conjunction with Ministry of State for Science and Technology, Post-Censal Highly Qualified Manpower Survey, 1973, Table 30.

Table 12

Male Income Differentials Between Degree Levels for Degree Holders Age 29-33 in Business Administration and Selected Disciplines, Canada, 1973 ≠

Discipline	AVERAGE ANNUAL EMPLOYMENT INCOME ($)				PERCENTAGES					
	Undergraduate Degree		Graduate Degree		As % of General Undergraduate Degree			As % of Specialized Undergraduate Degree		As % of Masters Degree
	General	Specialized	Masters	Doctoral	Specialized Undergraduate	Masters	Doctoral	Masters	Doctoral	Doctoral
Business Administration	15,000	15,500	18,300	26,900	103.3	122.0	179.3	118.1	173.5	147.0
Chemistry	12,400	12,000	12,400	13,400	96.8	100.0	108.1	103.3	111.7	108.1
Economics	15,800	14,700	17,900	17,400	93.0	113.3	110.1	121.8	118.4	97.2
Engineering	..	14,600	15,000	15,400	—	—	—	102.7	105.5	102.7
English	12,500	14,600	13,400	12,800	116.8	107.2	102.4	91.8	87.7	95.5
History	12,200	13,100	13,000	14,100	107.4	106.6	115.6	99.2	107.6	108.5
Sociology	13,300	12,400	13,400	14,200	93.2	100.8	106.8	108.1	114.5	106.0

≠ Persons who worked 40 -52 weeks in last 12 months; degree is last highest earned degree

.. Too few respondents to permit release of data.

Source: Statistics Canada, in conjunction with Ministry of State for Science and Technology, Post-Censal Highly Qualified Manpower Survey, 1973, Table 30.

Table 13

Male Income Differentials Between Degree Levels for Degree Holders Age 34-38
in Business Administration and Selected Disciplines, Canada, 1973 ≠

Discipline	AVERAGE ANNUAL EMPLOYMENT INCOME ($)				PERCENTAGES					
	Undergraduate Degree		Graduate Degree		As % of General Undergraduate Degree			As % of Specialized Undergraduate Degree		As % of Masters Degree
	General	Specialized	Masters	Doctoral	Specialized Undergraduate	Masters	Doctoral	Masters	Doctoral	Doctoral
Business Administration	18,400	20,200	22,700	27,100	109.8	123.4	147.3	112.4	134.2	119.4
Chemistry	12,300	15,100	13,300	17,200	122.8	108.1	139.8	88.1	113.9	129.3
Economics	15,700	20,200	20,600	20,200	128.7	131.2	128.7	102.0	100.0	98.1
Engineering	..	15,200	17,900	18,800	—	—	—	117.8	123.7	105.0
English	15,300	14,800	15,600	14,200	96.7	102.0	92.8	105.4	95.9	91.0
History	14,900	14,200	14,600	17,000	95.3	98.0	114.1	102.8	119.7	116.4
Sociology	14,900	15,600	14,600	18,300	104.7	98.0	122.8	93.6	117.3	125.3

≠ Persons who worked 40 - 52 weeks in last 12 months; degree is last highest earned degree

.. Too few respondents to permit release of data

Source: Statistics Canada, in conjunction with Ministry of State for Science and Technology, Post-Censal Highly Qualified Manpower Survey, 1973, Table 30.

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Table 14

Male Income Differentials Between Degree Levels for Degree Holders Age 39 - 43 in Business Administration and Selected Disciplines, Canada, 1973, ≠

Discipline	AVERAGE ANNUAL EMPLOYMENT INCOME ($)				PERCENTAGES					As % of Masters Degree
	Undergraduate Degree		Graduate Degree		As % of General Undergraduate Degree			As % of Specialized Undergraduate Degree		
	General	Specialized	Masters	Doctoral	Specialized Undergraduate	Masters	Doctoral	Masters	Doctoral	Doctoral
Business Administration	20,800	24,200	26,000	28,300	116.3	125.0	136.1	107.4	116.9	108.8
Chemistry	16,600	17,300	17,600	18,900	104.2	106.0	113.8	101.7	109.2	107.4
Economics	20,900	20,800	22,600	23,600	99.5	108.1	112.9	108.6	113.5	104.4
Engineering	..	20,200	20,600	21,800	—	—	—	102.0	107.9	105.8
English	17,000	17,200	16,100	17,500	101.2	94.7	102.9	93.6	101.7	108.7
History	16,800	18,600	16,500	17,300	110.7	98.2	103.0	88.7	93.0	104.8
Sociology	..	..	19,700	19,500	—	—	—	—	—	99.0

≠ Persons who worked 40 - 52 weeks in last 12 months; degree is last highest earned degree.

.. Too few respondents to permit release of data.

Source: Statistics Canada, in conjunction with Ministry of State for Science and Technology, Post-Censal Highly Qualified Manpower Survey, 1973, Table 30.

Table 15

Male Income Differentials Between Degree Levels for Degree Holders Age 44-53 in Business Administration and Selected Disciplines, Canada, 1973, ≠

Discipline	AVERAGE ANNUAL EMPLOYMENT INCOME ($)				PERCENTAGES					As % of Masters Degree
	Undergraduate Degree		Graduate Degree		As % of General Undergraduate Degree			As % of Specialized Undergraduate Degree		
	General	Specialized	Masters	Doctoral	Specialized Undergraduate	Masters	Doctoral	Masters	Doctoral	Doctoral
Business Administration	20,300	24,400	27,500	26, 200	120.2	135.5	129.1	112.7	107.4	95.3
Chemistry	17,400	19,700	20,800	24,200	113.2	119.5	139.1	105.6	122.8	116.3
Economics	18,900	26,600	23,200	31,200	140.7	122.8	165.1	87.2	117.3	134.5
Engineering	..	22,300	22,600	27,300	—	—	—	101.3	122.4	120.8
English	16,400	20,200	16,700	22,800	123.2	101.8	139.0	82.7	112.9	136.5
History	19,300	18,700	18,500	21,200	96.9	95.8	109.8	98.9	113.4	114.6
Sociology	16,200	20,700	17,000	23,000	127.8	104.9	142.0	82.1	111.1	135.3

≠ Persons who worked 40 - 52 weeks in last 12 months; degree is last highest earned degree

.. Too few respondents to permit release of data

Source: Statistics Canada, in conjunction with Ministry of State for Science and Technology, Post-Censal Highly Qualified Manpower Survey, 1973, Table 30.

Table 16

Male Income Differentials Between Degree Levels for Degree Holders Age 54 and Over in Business Administration and Selected Disciplines, Canada, 1973, ≠

Discipline	AVERAGE ANNUAL EMPLOYMENT INCOME ($)				PERCENTAGES					
	Undergraduate Degree		Graduate Degree		As % of General Undergraduate Degree			As % of Specialized Undergraduate Degree		As % of Masters Degree
	General	Specialized	Masters	Doctoral	Specialized Undergraduate	Masters	Doctoral	Masters	Doctoral	Doctoral
Business Administration	20,800	23,300	26,500	46,600	112.0	127.4	224.0	113.7	200.0	175.8
Chemistry	19,400	18,400	20,400	29,000	94.8	105.2	149.5	110.9	157.6	142.2
Economics	19,100	21,100	24,300	34,500	110.5	127.2	180.6	115.2	163.5	142.0
Engineering	..	23,000	24,500	24,700	–	–	–	106.5	107.4	100.8
English	14,100	21,300	17,800	25,500	151.1	126.2	180.9	83.6	119.7	143.2
History	14,800	16,100	19,400	21,700	108.8	131.1	146.6	120.5	134.8	111.9
Sociology	15,000	9,000	19,700	23,800	60.0	131.3	158.7	218.9	264.4	120.8

≠ Persons who worked 40 - 52 weeks in last 12 months; degree is last highest earned degree

.. Too few respondents to permit release of data

Source: Statistics Canada, in conjunction with Ministry of State for Science and Technology, Post Censal Highly Qualified Manpower Survey, 1973, Table 30.

APPENDIX

To give some perspective on the growth in incomes during the 1970's, taxation data have also been utilized. But, to use the taxation data time-series by occupation, it is necessary to identify which occupations business administration and accounting graduates are likely to enter. This information is available from the Post Censal Highly Qualified Manpower Survey 1973, and from the annual Taxation Statistics of Revenue Canada. Once this has been established, it is possible to give some indication of the changes in income levels for various occupations and to compare the age-qualified income profiles of selected occupations. Unfortunately, the taxation data do not provide the educational attainment of income recipients, by occupation, and this information could only be inferred indirectly.

Occupations Chosen by Business and Accounting Graduates

In which occupations do business administration and accounting graduates work? As Table A1 reveals, the largest occupation groups chosen by business degree-holders are accountants/auditors and general managers for both type of undergraduate degrees and master's degrees, and university teachers for doctorates. Except for those with doctorates (who overwhelmingly choose to become university teachers), most accountants (at least three-fifths) with bachelor's and master's degrees have become accountants/auditors (Table A2).

Given the importance of accounting and management for graduates from the university business schools, it seems appropriate to concentrate on these occupations when developing the income time-series from taxation data.

However, given the approximations in these education to occupation shifts, and the differences in occupational categories between the Highly Qualified Manpower Survey and that of Taxation Statistics, great caution should be used in interpreting these data.

Incomes of Selected Business-Related Occupations

From the taxation data for the tax years 1971 to 1975, two sets of data have been prepared. The first presents the average income of selected occupations relative to the age of the income earners and the second indicates the income ranges for a more detailed list of occupations. This information shows some of the growth patterns shared by those employed in these occupations, including those income-earners holding university degrees.

As Table A3 reveals, for the years 1971 to 1975, the average annual income of male business proprietors, regardless of the educational level attained, has been consistently lower than that of male professionals and salesmen, although it has moved much closer to the average income of all occupations in the last two years reported.(1) Comparing

(1) It should be noted that there is great diversity in the types and sizes of business reported in the category "business proprietors". This category ranges from single proprietor to large multi-national corporations.

1975 to 1971 incomes, businessmen have shown larger relative increases than have professionals, salesmen or all occupations combined and much stronger growth than the prices of goods and services used in the compilation of the Consumer Price Index. The income of business proprietors in 1975 was 72% higher than in 1971; for professionals, their income was 39% greater.

Table A4 compares the average 1975 income of males in selected occupations according to their age, but again disregards the educational level attained. Business proprietors have the lowest income of the four occupations presented; this is also true for income earners in each age category, except for the two groups (65 - 69, and 70 and over) who have incomes slightly greater than do employees. The highest incomes for business proprietors were earned by those aged 40 - 49.

For the year 1975, the percentage distribution of income earners in selected occupations, according to income category, is shown in Table A5. In the business field, the largest single income category for accountants was $25,000 or more. This was also the same for insurance and real estate proprietors; proprietors of construction, forestry, manufacturing, retail trade and wholesale trade businesses all had the largest percentage of their numbers in the $10,000 - $15,000

category; public utilities proprietors were concentrated in the $5,000 - $8,000 category. Of all business proprietors, 48% earned $10,000 or more; 91% of accountants made at least that amount, as did 81% of professionals.

The percentage of people earning $25,000 or more has increased markedly between 1971 and 1975 (Table A6). This is particularly pronounced for accountants: in 1971, 23% of accountants earned this amount of income,but by 1975, this percentage had "skyrocketed" to almost 60%. This "leap forward" is much greater than that of professionals (the comparable percentages for the latter being 39% to 56%). For business proprietors, percentages also have risen, but in most instances the 1971 base was very small: 2.2% for manufacturing, 1.2% for construction, and 1.9% for forestry; by 1975 these percentages had risen to 9.5%, 7.0% and 4.4%,respectively. Insurance proprietors with incomes over $25,000 increased from 5.6% to 28.8%, and real estate proprietors from 8.4% to 26.4%.

The taxation data reveal that accountants and businessmen have increased their incomes in the 1970's and have more than kept pace in relative terms to their professional counterparts and to the Consumer Price Index.

Conclusion

While the taxation data does not indicate the financial returns specifically for university business graduates employed in business occupations, it does show the general trends over time and the differences between occupations, as well as those in the same basic area (i.e., business proprietors). For professional occupations, with their specialization and technical demands and certification procedures, it is fairly safe to assume that they are staffed by university graduates. The proportion of accountants receiving university training is also quite high; in 1971 the Census reports approximately two-fifths had either a university degree or some university training. The "take-off" in incomes of accountants is most striking, especially when compared with professional incomes. Also it is probably safe to assume that the income advantages of possessing a business degree rather than one in most other disciplines (except medicine and law) as displayed in the 1973 Highly Qualified Manpower Survey data have continued to the present time and may have become even more favourable.

Table A1

Occupational Distributions of Males According to Last Highest Earned
Business Administration Degree, Canada, 1973

TYPE OF LAST HIGHEST EARNED DEGREE

Undergraduate				Graduate				Total (All Degrees)*	
General Degree		Specialized Degree		Master's Degree		Doctoral Degree			
Occupation ≠	%	Occupation ≠	%	Occupation ≠	%	Occupation ≠	%	Occupation ≠	%
Accountants, Auditors	23	Accountant, Auditors	23	General Managers	12	University Teachers	64	Accountants, Auditors	19
General Managers	8	General Managers	10	Accountant, Auditors	11	Industrial Engineers	9	General Managers	10
Personnel Officers	4	Personnel Officers	5	Economists	5	General Managers	7	Personnel Officers	5
Systems Analysts, Computer Programmer	2	Secondary School Teachers	3	Personnel Officers	4	Administrators in Teaching	5	Economists	3
Secondary School Teachers	2	Economists	2	Industrial Engineers	3	Government Administrators	2	Systems Analysts, Computer Programmers	3
Sub-Total	39	Sub-Total	43	Sub-Total	35	Sub-Total	87	Sub-Total	40
Total (N = 12240)	100	Total (N = 9755)	100	Total (N = 9070)	100	Total (N = 220)	100	Total (N = 32960)	100

* Also includes post-bachelor and graduate diplomas.

≠ Occupation of job of longest duration in the last twelve months; occupations are ranked in order of the number of degree-holders employed in them.

Source: Statistics Canada in conjunction with Ministry of State for Science and Technology, Post-Censal Highly Qualified Manpower Survey, 1973, Table 17.

Table A2

Occupational Distributions of Males According to Last Highest Earned Accounting Degree, Canada, 1973

TYPE OF LAST HIGHEST EARNED DEGREE

Undergraduate				Graduate				Total (All Degrees)*	
General Degree		Specialized Degree		Master's Degree		Doctoral Degree			
Occupation ≠	%	Occupation ≠	%	Occupation ≠	%	Occupation ≠	%	Occupation ≠	%
Accountants, Auditors	59	Accountant, Auditors	66	Accountants, Auditors	61	University Teachers	83	Accountants, Auditors	62
General Managers	6	General Managers	4	Government Administors	4	Administrators in Teaching	17	General Managers	5
Secondary School Teachers	4	Secondary School Teachers	3	Bookkeepers	4	-		Secondary School Teachers	4
Bookkeepers	3	Government Administors	2	University Teachers	4	-		Bookkeepers	3
Government Administors	1	Bookkeepers	2	General Managers	2	-		Government Administors	2
Sub-Total	73	Sub-Total	77	Sub-Total	75	Sub-Total	100	Sub-Total	76
Total (N = 4470)	100	Total (N = 4460)	100	Total (N = 815)	100	Total (N = 30)	100	Total (N = 10025)	100

* Also includes post-bachelor and graduate diplomas.

≠ Occupation of job of longest duration in the last twelve months; occupations are ranked in order of the number of degree-holders employed in them.

Source: Statistics Canada in conjunction with Ministry of State for Science and Technology, Post-Censal Highly Qualified Manpower Survey, 1973, Table 17.

Table A3

Average Annual Income of Males, by Occupation, Canada, 1971-1975
($, Taxable Income)

Occupation	1971	1972	1973	1974	1975
Business Proprietors	7795	8591	9839	11537	13431
Professionals	27114	29024	31832	35142	37639
Salesmen	9097	10518	11340	13611	14873
Total*	8382	9074	10130	11736	13762

Occupation	Indexes				
	1971	1972	1973	1974	1975
Business Proprietors	100.0	110.2	126.2	148.0	172.3
Professionals	100.0	107.0	117.4	129.6	138.8
Salesmen	100.0	115.6	124.7	149.6	163.5
Total*	100.0	104.5	110.9	140.0	164.1
Consumer Price Index	100.0	104.5	110.8	123.7	136.5

* Also includes occupations other than those stated in table.

Source: Revenue Canada Taxation, Taxation Statistics, Selected years, Table 12. Statistics Canada, Canadian Statistical Review

Table A4

Average Annual Income of Males, by Occupation and by Age, Canada,
Taxation Year 1975
($, Taxable Income)

AGE	Business Proprietors		Employees		Professionals		Salesmen		Total (All Males)*
	$	As % of All Males	$	As % of All Males	$	As % of All Males	$	As % of All Males	$
Under 25	8,034	99.8	8,196	101.8	7,340	91.2	6,882	85.5	8,050
25 - 29	10,982	93.0	11,946	101.2	19,656	166.5	10,986	93.1	11,806
30 - 34	12,629	87.5	14,417	99.8	30,873	213.8	12,855	89.0	14,440
35 - 39	13,514	84.4	15,832	98.9	40,282	251.7	15,087	94.3	16,005
40 - 44	14,802	88.2	16,477	98.2	46,262	275.6	16,658	99.2	16,784
45 - 49	14,722	86.3	16,642	97.5	45,102	264.2	17,297	101.3	17,068
50 - 54	14,280	86.6	16,069	97.4	44,616	270.6	16,901	102.5	16,490
55 - 59	13,989	88.4	15,426	97.5	43,526	275.2	16,431	103.9	15,817
60 - 64	13,422	92.8	14,191	98.1	40,072	277.0	15,247	105.4	14,468
65 - 69	15,224	107.3	14,288	100.7	30,832	217.4	14,863	104.8	14,184
70 and over	15,435	107.0	15,385	106.6	27,718	192.1	17,398	120.6	14,428
Total Reported	13,433	97.6	13,516	98.2	37,661	273.6	14,874	108.1	13,763
Age Not Reported	11,219	142.2	6,840	86.7	6,880	87.2	7,500	95.1	7,890
Total Taxable Return	13,431	97.6	13,515	98.2	37,639	273.5	14,873	108.1	13,762
Total All Returns	10,529	92.0	12,102	105.8	33,284	291.0	12,559	109.8	11,439

* Also includes occupations other than those stated in table.

Source: Revenue Canada Taxation, Taxation Statistics, Table 12.

Table A5

Percentage Distribution of Taxable Returns, by Income Category and Occupation (Selected), Canada 1975, (Both Sexes)

Income on Taxable Returns	Accountants	Business Proprietors									Professionals	All Occupations ≠
		Construction	Forestry	Insurance	Manufacturing	Public Utilities	Real Estate	Retail Trade	Wholesale Trade	Total*		
Under 2000	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.1	0.1	0.1	0.2	0.2
2000 - 5000	1.7	8.2	9.6	0.0	11.0	12.8	3.3	8.2	8.6	10.6	4.9	9.9
5000 - 8000	3.7	22.8	27.8	13.5	16.5	32.8	11.9	21.4	17.0	24.5	9.1	24.0
8000 - 10000	3.2	16.0	8.1	7.3	15.8	14.4	12.1	14.9	13.9	14.7	4.4	15.0
10000 - 15000	14.5	27.0	31.4	24.1	25.5	22.6	17.3	25.4	25.9	23.9	10.5	28.3
15000 - 20000	10.3	13.1	13.7	12.0	14.4	9.8	17.8	13.3	13.0	12.2	8.2	13.0
20000 - 25000	7.3	5.8	4.9	14.3	7.0	3.9	11.3	7.3	8.2	6.1	7.1	4.7
25000 and over	59.3	7.0	4.4	28.8	9.5	3.6	26.4	9.3	13.2	8.0	55.5	4.7
Total Taxable	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

* Also includes other types of business proprietors in addition to those presented in this table

≠ Also includes occupations other than those presented in this table.

Source: Revenue Canada Taxation, Taxation Statistics Selected Years, Table 13.

Table A6

Percentage of Taxable Returns in Selected Occupations Having Income of $25,000 and Over, Canada, 1971-1975, (Both Sexes)

Occupation	1971	1972	1973	1974	1975
Accountants	23.0	26.5	45.3	49.8	59.3
Business Proprietors Total*	1.8	2.4	3.7	5.7	8.0
Construction	1.2	1.8	3.4	4.7	7.0
Forestry	1.9	2.7	3.7	5.7	4.4
Insurance	5.6	6.6	7.6	14.8	28.8
Manufacturing	2.2	2.4	4.1	7.1	9.5
Public Utilities	0.8	1.2	1.2	2.5	3.6
Real Estate	8.4	12.3	18.1	30.7	26.4
Retail Trade	1.8	2.4	3.6	6.4	9.3
Wholesale Trade	4.1	5.4	8.0	13.7	13.2
Professionals	38.8	42.6	48.1	51.6	55.5
Total ≠	1.3	1.5	2.1	3.1	4.7

* Also includes other types of business proprietors in addition to those presented in this table.

≠ Also includes occupations other than those presented in this table.

Source: Revenue Canada Taxation, Taxation Statistics, Selected Years, Table 13.

Employment Patterns of Administrative Studies Graduates in the Federal Public Service in the 1970's
(A Statistical Profile)

by

Donald M. Caskie

and

Max von Zur-Muehlen,
Ph.D.

Prepared for

Council of Deans of Faculties
of Management and Business Administration
of Canada

Institutional and Public
Finance Statistics Branch,
Statistics Canada

March 10, 1978

FOREWORD

This draft study is part of a series which have been developed as background reports for "A Review of University Management Education in Canada" which has recently been released.(1) The Council of Deans of Faculties of Management and Business Administration of Canada took an active interest in the project and preliminary results were presented at their annual meeting in 1977.

The Public Service Commission of Canada has provided the quantitative information from the Data Stream and their support is gratefully acknowledged.

Since this is the first draft only, the statistical tables are presented without a detailed commentary. A second draft would include additional information and the analysis of the data.

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(1) Among these: "Canada Council and Administrative Studies: Funding Patterns in the Mid-1970's (by Donald M. Caskie); "Business Faculty at Canadian Universities in the Mid-1970's" (by Donald M. Caskie, Alf Chaiton, and Max von Zur-Muehlen); "An Analysis of the Bronfman Foundation Seagram Business Fellowship Program" (by Max von Zur-Muehlen and Donald M. Caskie); "Income Patterns of Business Graduates and those in Other Selected Disciplines in the Mid-1970's (by Donald M. Caskie and Max von Zur-Muehlen); and "National Research Council Support for University Management Education - A Preliminary Description" (by Alf Chaiton).

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Introductory Notes

The federal government is one of the major employers in Canada. In 1976, there were 283,169 employees under the Public Service Employment Act 271,117 of whom were classified as being employed full-time. These employees perform a multitude of services in the more than 65 separate departments or agencies of the federal government.

In such a complex organization, there is a need for managerial expertise. In 1976 the distribution of employees under the Public Service Employment Act by occupational category was as follows:

Occupational Distribution of Federal Public Servants, 1976

Occupational Category	Number	%
Senior Executive	1,223	0.4
Administrative and Foreign Service	50,461	17.8
Sub-total	51,684	18.3
Administrative Support	75,143	26.5
Scientific and Professional	24,623	8.7
Technical	26,830	9.5
Operational	104,268	36.8
Total	283,169	100.0

Source: Public Service Commission of Canada, Annual Report, 1976. Table 41 (Total includes 621 employees not distributed in these six categories).

Almost a fifth of the employees were working as senior executives or as administrative/foreign service personnel with an additional 27% functioning in an administrative support capacity.

For the university management schools, the federal public service provides an opportunity to place their graduates and it is of interest to ascertain the employment pattern and trends of administrative studies graduates.

Some comparisons are presented with the disciplines of economics and sociology to provide a perspective on the pattern of employment.

1. The 1973 Post-Censal Highly Qualified Manpower Survey provides unique data on the degree level by discipline and the employment pattern in the public sector. Table 1 utilizes this information by type of degree (general undergraduate, specialized undergraduate, masters and doctorates) for selected disciplines of study (business administration, economics, and sociology).

2. The Public Service Commission has prepared special tabulations from the Data Stream showing the university from which their employees have obtained their degree and the type of employment presently held.* The above data has been gathered on those who have graduated from the following sub-disciplines of administrative studies: accounting, business management, industrial relations, personnel management, and public administration; in addition, information is presented on economists and sociologists, for comparative purposes.

   Tables 1 to 4 summarize the data from the Public Service Commission while Tables 5 to 18 provide additional supporting information.

3. Appendix A provides information for the management graduates who have

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* Data Stream is an inventory of the occupational backgrounds of federal civil servants maintained by the Public Service Commission of Canada for staffing purposes. Approximately 80% of all federal servants coming under the jurisdiction of the Public Service Commission are included in the Data Stream. Employers of the Defence Department and crown agencies and other government bodies who do their own hiring are not included in this inventory. Because the individual civil servant is responsible for completing the questionnaire for the inventory and because the inventory is primarily designed for purposes other than research, some caution should be used in interpreting the data, especially when small numbers are involved. All tables from the Data Stream are based on the inventory as of November 1977.

applied to the Public Service Commission, the numbers interviewed and hired for sub-disciplines of management education compared with all other disciplines.

Table 1

Federal Government Employees with University Degrees in Business Administration, Economics, and Sociology, by Type of Highest Earned Degree, Canada, 1973

Discipline of Study	Employer	TYPE OF HIGHEST EARNED DEGREE								Total
		General Undergraduate		Specialized Undergraduate**		Masters		Doctoral		
		Number	%	Number	%	Number	%	Number	%	
Business Administration	Federal Gov't	1,410	43.9	1,075	33.5	715	22.3	10	0.3	3,210
	All Employees	18,860	41.8	15,425	34.2	10,540	23.4	270	0.6	45,095
	Federal Gov't as % of All Business Employees	7.5		7.0		6.8		3.7		7.1
Economics	Federal Gov't	850	34.0	755	30.2	715	28.6	180	7.2	2,500
	All Employees	8,200	51.7	4,495	28.3	2,335	14.7	840	5.3	15,865
	Federal Gov't as % of All Economics Employees	10.4		16.8		30.6		21.4		15.8
Sociology	Federal Gov't	360	53.7	190	28.4	120	17.9	0	0.0	670
	All Employees	4,850	57.2	1,735	20.5	1,450	17.1	445	5.3	8,475
	Federal Gov't as % of All Sociology Employees	7.4		11.0		8.3		0.0		7.9
All Disciplines	Federal Gov't	9,595	29.6	13,150	40.5	6,630	20.4	3,090	9.5	32,465
	All Employees	153,250	27.2	289,585	51.3	93,720	16.6	27,410	4.9	563,965
	Federal Gov't as % of All Employees	6.3		4.5		7.1		11.3		5.8
% of University Trained Federal Gov't Employees with a Business Degree		14.7		8.2		10.8		0.3		9.9

Source: Statistics Canada in conjunction with the Ministry of State for Science and Technology, Post-Censal Highly Qualified Manpower Survey, 1973

TABLE 2

Federal Public Servants with University Degrees in Administrative Studies, Economics, and Sociology, by Type of Highest Earned Degree

Discipline of Study	TYPE OF HIGHEST EARNED DEGREE				
	Bachelor - Pass	Bachelor - Honours	Masters	Doctorate	Total
Administrative Studies	1,571 (35.0)	1,257 (22.0)	1,571 (35.0)	88 (2.0)	4,487 (100.0)
Accounting	856 (48.0)	581 (32.6)	304 (17.1)	41 (2.3)	1,782 (100.0)
Business Management	639 (30.6)	539 (25.8)	880 (42.1)	32 (1.5)	2,090 (100.0)
Industrial Relations	12 (11.5)	42 (40.4)	48 (46.2)	2 (1.9)	104 (100.0)
Personnel Management	26 (21.3)	41 (33.6)	51 (41.8)	4 (3.3)	122 (100.0)
Public Administration	38 (9.8)	54 (13.9)	288 (74.0)	9 (2.3)	389 (100.0
Economics	1,049 (36.8)	810 (28.4)	818 (28.7)	173 (6.1)	2,850 (100.0)
Sociology	486 (45.3)	284 (26.5)	267 (24.9)	35 (3.3)	1,072 (100.0)
Total of Above	3,106 (37.0)	2,351 (28.0)	2,656 (32.0)	296 (4.0)	8,409 (100.0)

Source: Public Service Commission of Canada, special tabulation from Data Stream.

Table 3

University Awarding Largest Number of Degrees to those Employed in the Federal Public Service by Selected Discipline and Type of Highest Earned Degree

Discipline	TYPE OF HIGHEST EARNED DEGREE									
	Bachelor - Pass		Bachelor - Honours		Master		Doctorate		Total	
	University	%	University	%	University	%	University	%	University	%
Accounting	Saskatchewan	12.1	Montreal	12.4	Laval	24.3	Laval	14.6	Montreal	9.3
Business Management	Ottawa	13.3	Montreal	11.3	Western Ont.	15.9	Montreal	12.5	Ottawa	9.3
Industrial Relations	British Columbia	33.3	Laval	35.7	Montreal	31.3	Ottawa	50.0	Montreal	28.8
Personnel Management	Alberta	11.5	Montreal	19.5	Montreal	17.6	Queen's	25.0	Montreal	15.6
Public Administration	Carleton	52.6	Ottawa	38.9	Carleton	60.8	Toronto	22.2	Carleton	53.2
Economics	Carleton	18.3	Toronto	8.3	Toronto	9.7	McGill	5.8	Carleton	10.2
Sociology	Carleton	23.3	Montreal	24.3	Ottawa	20.2	Toronto	17.1	Carleton	15.6

Source: Public Service Commission of Canada, special tabulation from Data Stream.

Table 4

Largest Single Employment Group of those with University Training who were Employed in the Federal Public Service by Selected Discipline and Type of Highest Earned Degree

Discipline	TYPE OF HIGHEST EARNED DEGREE									
	Bachelor - Pass		Bachelor-Honours		Master		Doctorate		Total	
	Employment Group	%	Employment Group	%	Employment Group	%	Employment Group	%	Employment Group	%
Accounting	Auditing	43.8	Auditing	41.7	Auditing	52.3	Auditing	63.4	Auditing	45.0
Business Management	Program Admin.	29.1	Program Admin.	27.6	Commerce	16.6	Economics	18.6	Program Admin.	21.5
Industrial relations	Personnel Admin.	25.0	Personnel Admin.	59.5	Personnel Admin.	29.2	Personnel Admin.	50.0	Personnel Admin.	41.3
Personnel Management	Personnel Admin.	53.8	Personnel Admin.	43.9	Personnel Admin.	31.4	Program Admin.	50.0	Personnel Admin.	39.3
Public Administration	Program Admin.	26.3	Personnel Admin.	31.5	Personnel Admin.	15.3	Admin. Services	22.2	Personnel Admin.	17.5
Economics	Program Admin.	23.5	Economics	44.4	Economics	67.1	Economics	74.6	Economics	44.0
Sociology	Program Admin.	31.9	Program Admin.	27.5	Economics	30.3	Economics	57.1	Program Admin.	25.7

Source: Public Service Commission of Canada, special tabulation from Data Stream

Table 5

Ranking of Universities which have Awarded Degrees in Accounting to Federal Public Servants by Number of Degrees Awarded by Type of Highest Earned Degree

TYPE OF HIGHEST EARNED DEGREE									
Bachelor - Pass		Bachelor-Honours		Masters		Doctorate		Total	
University	%	University	%	University	%	University	%	University	%
Saskatchewan	12.1	Montreal	12.4	Laval	24.3	Laval	14.6	Montreal	9.3
Ottawa	9.1	Ottawa	11.0	Montreal	24.0	Montreal	14.6	Ottawa	8.1
British Columbia	8.4	Sir George Williams	6.0	McGill	10.9	McGill	9.8	Laval	6.6
Sir George Williams	7.4	Sherbrooke	5.5	Sherbrooke	7.6	Queen's	9.8	British Columbia	6.5
St. Mary's	5.6	Moncton	5.3	British Columbia	5.9	British Columbia	7.3	Saskatchewan	6.5
Sub-total	42.6	Sub-total	40.0	Sub-total	72.7	Sub-total	56.1	Sub-total	37.0
Total %	100.0	Total %	100.0	Total %	100.0	Total %	100.0	Total %	100.0
Number	856	Number	581	Number	304	Number	41	Number	1,782

Source: Public Service Commission of Canada, special tabulation from Data Stream

Table 6

Ranking of Universities which have Awarded Degrees in Business Management to Federal Public Servants by Number of Degrees Awarded by Type of Highest Earned Degree

TYPE OF HIGHEST EARNED DEGREE									
Bachelor - Pass		Bachelor-Honours		Masters		Doctorate		Total	
University	%	University	%	University	%	University	%	University	%
Ottawa	13.3	Montreal	11.3	Western Ontario	15.9	Montreal	12.5	Ottawa	9.3
Saskatchewan	8.3	Ottawa	10.0	Toronto	9.7	Ottawa	6.3	Western Ontario	7.9
Sir George Williams	6.4	British Columbia	8.7	McGill	6.4	McGill	6.3	British Columbia	5.7
Alberta	5.9	Quebec	5.2	Laval	6.3	Alberta	6.3	Montreal	5.7
St. Mary's	4.9	Laval	5.0	Ottawa	6.0	Toronto	3.1	Toronto	5.6
Sub-total	38.8	Sub-total	40.0	Sub-total	44.3	Sub-total	34.5	Sub-total	34.2
Total %	100.0	Total %	100.0	Total %	100.0	Total %	100.0	Total %	100.0
Number	639	Number	539	Number	880	Number	32	Number	2,090

Source: Public Service Commission of Canada, special tabulation from Data Stream

Table 7

Ranking of Universities which have Awarded Degrees in Industrial Relations to Federal Public Servants by Number of Degrees Awarded by Type of Highest Earned Degree

TYPE OF HIGHEST EARNED DEGREE									
Bachelor - Pass		Bachelor-Honours		Masters		Doctorate *		Total	
University	%	University	%	University	%	University	%	University	%
British Columbia	33.3	Laval	35.7	Montreal	31.3	Ottawa	50.0	Montreal	28.8
Alberta	8.3	Montreal	35.7	Queen's	20.8	-	0.0	Laval	23.1
Laval	8.3	McGill	7.1	Laval	16.7	-	0.0	Queen's	9.6
Carleton	8.3	British Columbia	7.1	McMaster	10.4	-	0.0	British Columbia	6.7
McGill	8.3	Manitoba	2.4	Ottawa	4.2	-	0.0	McGill	4.8
Sub-total	66.5	Sub-total	88.0	Sub-total	83.4	Sub-total	50.0	Sub-total	73.0
Total %	100.0	Total %	100.0	Total %	100.0	Total %	100.0	Total %	100.0
Number	12	Number	42	Number	48	Number	2	Number	104

Source: Public Service Commission of Canada, special tabulation from Data Stream

* 50% in other universities not specified

Table 8

Ranking of Universities which have Awarded Degrees in Personnel Management to Federal Public Servants by Number of Degrees Awarded by Type of Highest Earned Degree

TYPE OF HIGHEST EARNED DEGREE									
Bachelor - Pass		Bachelor-Honours		Masters		Doctorate*		Total	
University	%	University	%	University	%	University	%	University	%
Alberta	11.5	Montreal	19.5	Montreal	17.6	Queen's	25.0	Montreal	15.6
Saskatchewan	11.5	Quebec	14.6	Laval	7.8	Sir George Williams	25.0	British Columbia	6.6
Manitoba	7.7	British Columbia	14.6	Carleton	5.9	-	0.0	Western Ontario	4.9
Montreal	7.7	Sherbrooke	4.9	Dalhousie	5.9	-	0.0	Laval	4.1
Ottawa	7.7	Ottawa	4.9	Toronto	5.9	-	0.0	Alberta	3.3
Sub-total	46.1	Sub-total	58.5	Sub-total	43.1	Sub-total	50.0	Sub-total	34.5
Total %	100.0	Total %	100.0	Total %	100.0	Total %	100.0	Total %	100.0
Number	26	Number	41	Number	51	Number	4	Number	122

Source: Public Service Commission of Canada, special tabulation from Data Stream

* 50% in other universities not specified

Table 9

Ranking of Universities which have Awarded Degrees in Public Administration to Federal Public Servants by Number of Degrees Awarded by Type of Highest Earned Degree

TYPE OF HIGHEST EARNED DEGREE									
Bachelor - Pass		Bachelor Honours		Masters		Doctorate		Total	
University	%	University	%	University	%	University	%	University	%
Carleton	52.6	Ottawa	38.9	Carleton	60.8	Toronto	22.2	Carleton	53.2
Ottawa	21.1	Carleton	20.4	Queen's	5.9	Ottawa	11.1	Ottawa	11.6
Manitoba	7.9	Quebec	16.7	Quebec	5.6	Carleton	11.1	Quebec	6.4
Winnipeg	2.6	Montreal	7.4	Ottawa	5.2	British Columbia	11.1	Queen's	4.4
Toronto	2.6	British Columbia	3.7	Montreal	2.4	Sherbrooke	11.1	Montreal	2.8
Sub-total	86.8	Sub-total	87.1	Sub-total	79.9	Sub-total	66.6	Sub-total	78.4
Total % Number	100.0 38	Total % Number	100.0 54	Total % Number	100.0 288	Total % Number	100.0 9	Total % Number	100.0 389

Source: Public Service Commission of Canada, special tabulation from Data Stream

Table 10

Ranking of Universities which have Awarded Degrees in Economics to Federal Public Servants by Number of Degrees Awarded by Type of Highest Earned Degree

TYPE OF HIGHEST EARNED DEGREE									
Bachelor - Pass		Bachelor-Honours		Masters		Doctorate		Total	
University	%	University	%	University	%	University	%	University	%
Carleton	18.3	Toronto	8.3	Toronto	9.7	McGill	5.8	Carleton	10.2
Ottawa	9.0	Montreal	7.5	Ottawa	8.8	Toronto	3.5	Ottawa	7.7
British Columbia	6.2	Carleton	7.2	Carleton	4.8	Western Ontario	3.5	Toronto	6.7
Manitoba	4.4	Ottawa	6.3	Montreal	4.5	Queen's	4.0	British Columbia	4.4
Saskatchewan	4.4	McGill	4.9	Western Ontario	4.5	Manitoba	4.0	McGill	4.1
Sub-Total	42.3	Sub-Total	34.2	Sub-Total	32.3	Sub-Total	20.8	Sub-Total	33.1
Total %	100.0	Total %	100.0	Total %	100.0	Total %	100.0	Total %	100.0
Number	1,049	Number	810	Number	818	Number	173	Number	2,850

Source: Public Service Commission of Canada, special tabulation from Data Stream.

Table 11

Ranking of University which have Awarded Degrees in Sociology to Federal Public Servants by Number of Degrees Awarded by Type of Highest Earned Degree

TYPE OF HIGHEST EARNED DEGREE									
Bachelor - Pass		Bachelor-Honours		Masters		Doctorate*		Total	
University	%	University	%	University	%	University	%	University	%
Carleton	23.3	Montreal	24.3	Ottawa	20.2	Toronto	17.1	Carleton	15.6
Ottawa	6.8	Carleton	10.9	Montreal	16.9	British Columbia	5.7	Montreal	12.0
Sir George Williams	5.6	Laval	7.0	Carleton	8.2	Ottawa	5.7	Ottawa	10.2
British Columbia	4.3	Ottawa	7.0	Laval	7.5	Brandon	2.9	Toronto	4.9
Toronto	4.1	Toronto	6.7	British Columbia	6.7	Carleton	2.9	Laval	4.7
Sub-total	44.1	Sub-total	55.9	Sub-total	59.5	Sub-total	34.4	Sub-total	47.4
Total %	100.0	Total %	100.0	Total %	100.0	Total %	100.0	Total %	100.0
Number	486	Number	284	Number	267	Number	35	Number	1,072

* 66.0% are in other universities not specified

Source: Public Service Commission of Canada, special tabulation from Data Stream

Table 12

Five Largest Employment Groups for Federal Public Servants with a University Degree in Accounting, by Level of Highest Earned Degree

LEVEL OF HIGHEST EARNED DEGREE									
Bachelor - Pass		Bachelor-Honours		Master		Doctorate		Total	
Employment Group	%	Employment Group	%	Employment Group	%	Employment Group	%	Employment Group	%
Auditing	43.8	Auditing	41.7	Auditing	52.3	Auditing	63.4	Auditing	45.0
Program Admin.	20.1	Program Admin.	30.5	Program Admin.	14.1	Economics	9.8	Program Admin.	22.1
Financial Admin.	15.3	Financial Admin.	14.8	Financial Admin.	13.2	Financial Admin.	9.8	Financial Admin.	14.6
Commerce	4.6	Commerce	3.6	Commerce	6.9	Senior Executive	7.3	Commerce	4.6
Admin. Services	4.2	Admin. Services	2.8	Senior Executive	3.9	Program Admin.	4.9	Admin. Services	3.4
Sub-total	88.0	Sub-total	93.4	Sub-total	90.4	Sub-total	95.2	Sub-total	89.7
Total % Number	100.0 856	Total % Number	100.0 581	Total % Number	100.0 304	Total % Number	100.0 41	Total % Number	100.0 1,782

Source: Public Service Commission of Canada, special tabulation from Data Stream

Table 13

Five Largest Employment Groups for Federal Public Servants with a University Degree in Business Management, by Level of Highest Earned Degree

Bachelor - Pass		Bachelor-Honours		Master		Doctorate		Total	
Employment Group	%	Employment Group	%	Employment Group	%	Employment Group	%	Employment Group	%
Program Admin.	29.1	Program Admin.	27.6	Commerce	16.6	Economics	18.6	Program Admin.	21.5
Auditing	14.1	Auditing	13.9	Economics	14.2	Program Admin.	15.6	Commerce	11.3
Admin. Services	11.0	Financial Admin.	11.5	Program Admin.	12.4	Senior Executive	12.5	Admin. Services	10.3
Financial Admin.	9.9	Personnel Admin.	10.8	Admin. Services	10.6	Financial Admin.	12.5	Auditing	9.5
Personnel Admin.	9.1	Admin. Services	9.6	Organization & Methods	6.5	Personnel Admin.	6.8	Financial Admin.	8.6
Sub-total	73.2	Sub-total	73.4	Sub-total	60.3	Sub-total	66.0	Sub-total	61.2
Total % Number	100.0 639	Total % Number	100.0 539	Total % Number	100.0 880	Total % Number	100.0 32	Total % Number	100.0 2,090

Source: Public Service Commission of Canada, special tabulation from Data Stream

Table 14

Five Largest Employment Groups for Federal Public Servants with a University Degree in Industrial Relations, by Level of Highest Earned Degree

LEVEL OF HIGHEST EARNED DEGREE									
Bachelor - Pass		Bachelor-Honours		Master		Doctorate		Total	
Employment Group	%	Employment Group	%	Employment Group	%	Employment Group	%	Employment Group	%
Personnel Admin.	25.0	Personnel Admin.	59.5	Personnel Admin.	29.2	Personnel Admin.	50.0	Personnel Admin.	41.3
Program Admin.	16.7	Program Admin.	19.0	Program Admin.	20.8	Economics	50.0	Program Admin.	19.2
Admin. Services	8.3	Foreign Affairs	4.8	Senior Executive	20.8	-	0.0	Senior Executive	10.6
Auditing	8.3	Admin. Services	2.4	Economics	10.4	-	0.0	Economics	6.7
Commerce	8.3	Economics	2.4	Foreign Affairs	8.3	-	0.0	Foreign Affairs	6.7
Sub-total	66.6	Sub-total	88.1	Sub-total	89.5	Sub-total	100.0	Sub-total	84.5
Total % Number	100.0 12	Total % Number	100.0 42	Total % Number	100.0 48	Total % Number	100.0 2	Total % Number	100.0 104

Source: Public Service Commission of Canada, special tabulation from Data Stream

Table 15

Five Largest Employment Groups for Federal Public Servants with a University Degree in Personnel Management, by Level of Highest Earned Degree

LEVEL OF HIGHEST EARNED DEGREE									
Bachelor - Pass		Bachelor-Honours		Master		Doctorate		Total	
Employment Group	%	Employment Group	%	Employment Group	%	Employment Group	%	Employment Group	%
Personnel Admin.	53.8	Personnel Admin.	43.9	Personnel Admin.	31.4	Program Admin.	50.0	Personnel Admin.	39.3
Program Admin.	23.1	Program Admin.	29.3	Program Admin.	23.5	Senior Executive	25.0	Program Admin.	26.2
Auditing	11.5	Admin. Services	12.2	Admin. Services	7.8	Foreign Affairs	25.0	Admin. Services	7.4
Financial Admin.	3.8	Auditing	7.3	Senior Executive	7.8	-	0.0	Auditing	6.6
Teaching (elem. & Sec.)	3.8	Economics	4.9	Economics	3.9	-	0.0	Senior Executive	4.1
Sub-total	96.0	Sub-total	97.6	Sub-total	74.4	Sub-total	100.0	Sub-total	83.6
Total % Number	100.0 26	Total % Number	100.0 41	Total % Number	100.0 51	Total % Number	100.0 4	Total % Number	100.0 122

Source: Public Service Commission of Canada, special tabulation from Data Stream

Table 16

Five Largest Employment Groups for Federal Public Servants with a University Degree in Public Administration, by Level of Highest Earned Degree

LEVEL OF HIGHEST EARNED DEGREE									
Bachelor - Pass		Bachelor-Honours		Master		Doctorate		Total	
Employment Group	%	Employment Group	%	Employment Group	%	Employment Group	%	Employment Group	%
Program Admin.	26.3	Personnel Admin.	31.5	Personnel Admin.	15.3	Admin. Services	22.2	Personnel Admin.	17.5
Admin. Services	18.4	Admin. Services	25.9	Program Admin.	13.5	Economics	22.2	Admin. Services	14.9
Personnel Admin.	13.2	Program Admin.	14.8	Admin. Services	12.2	Personnel Admin.	22.2	Program Admin.	14.7
Organization & Methods	7.9	Commerce	5.6	Economics	10.8	Senior Executive	22.2	Economics	8.7
Teaching (elem & sec)	5.3	Social Science Support	3.7	Senior Executive	9.0	Social Welfare	11.1	Senior Executive	7.7
Air Traffic Control	5.3								
Sub-total	71.1	Sub-total	81.5	Sub-total	60.8	Sub-total	99.9	Sub-total	63.5
Total % Number	100.0 38	Total % Number	100.0 54	Total % Number	100.0 288	Total % Number	100.0 9	Total % Number	100.0 389

Source: Public Service Commission of Canada, special tabulation from Data Stream

Table 17

Five Largest Employment Groups for Federal Public Servants with a University Degree in Economics, by Level of Highest Earned Degree

LEVEL OF HIGHEST EARNED DEGREE									
Bachelor - Pass		Bachelor-Honours		Master		Doctorate		Total	
Employment Group	%	Employment Group	%	Employment Group	%	Employment Group	%	Employment Group	%
Program Admin.	23.5	Economics	44.4	Economics	67.1	Economics	74.6	Economics	44.0
Economics	20.6	Program Admin.	12.6	Senior Executive	7.9	Senior Executive	13.3	Program Admin.	13.8
Commerce	9.0	Commerce	9.1	Commerce	6.8	Commerce	1.7	Commerce	8.0
Auditing	7.5	Foreign Affairs	6.5	Program Admin.	5.3	Foreign Affairs	1.7	Senior Executive	6.1
Admin. Services	6.8	Senior Executive	5.3	Foreign Affairs	5.0	Research Scientist	1.7	Foreign Affairs	5.0
Sub-total	67.4	Sub-total	77.9	Sub-total	92.1	Sub-total	93.0	Sub-total	76.9
Total % Number	100.0 1,049	Total % Number	100.0 810	Total % Number	100.0 818	Total % Number	100.0 173	Total % Number	100.0 2,850

Source: Public Service Commission of Canada, tabulation from Data Stream

Table 18

Five Largest Employment Groups for Federal Public Servants with a University Degree in Sociology, by Level of Highest Earned Degree

LEVEL OF HIGHEST EARNED DEGREE									
Bachelor - Pass		Bachelor-Honours		Master		Doctorate		Total	
Employment Group	%	Employment Group	%	Employment Group	%	Employment Group	%	Employment Group	%
Program Admin.	31.9	Program Admin.	27.5	Economics	30.3	Economics	57.1	Program Admin.	25.7
Welfare Programs	16.9	Welfare Programs	21.1	Welfare Programs	26.6	Program Admin.	11.4	Welfare Programs	20.0
Personnel Admin.	12.6	Economics	13.7	Program Admin.	14.2	Senior Executive	11.4	Economics	16.1
Admin. Services	8.2	Personnel Admin.	10.2	Personnel Admin.	3.7	Financial Admin.	8.6	Personnel Admin.	9.4
Economics	6.8	Admin. Services	6.7	Senior Executive	3.7	Personnel Admin.	2.9	Admin. Services	6.3
Sub-total	76.4	Sub-total	79.2	Sub-total	78.5	Sub-total	91.4	Sub-total	77.5
Total % Number	100.0 486	Total % Number	100.0 284	Total % Number	100.0 267	Total % Number	100.0 35	Total % Number	100.0 1,072

Source: Public Service Commission of Canada, tabulation from Data Stream

APPENDIX A

New Management Graduates in the Federal Public Service

The Public Service Commission has always employed a sizeable number of university graduates. For certain occupational and professional levels, a university degree is a pre-requisite for employment in the public sector. In other categories, such as Administrative Services (AS), Clerical and Regulatory (CR), General Technical (GT) and Social Science Support (SI), a university degree is not a pre-condition for employment although increasingly the applicants hired at these levels do have this qualification. These groups are excluded from the discussion as only those positions which require a university degree are considered.

The enclosed table shows the number of business school graduates, by type of degree, who have formally applied to the Public Service Commission.(1) In 1977, of the 14,100 applications received, 2,405 or 17.1% had training in Commerce and Business Administration.(2)

The percentage of applicants interviewed is also indicated in the table. For all disciplines, this proportion was 40.2%, however, those with accounting background were interviewed 100%.

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(1) The Public Service Commission hires approximately 80% of all university graduates who are employed in the public sector. This figure excludes certain government agencies.

(2) These applicants could have graduated either recently or a number of years ago.

Another part of the table shows the actual number of applicants hired from business compared with those from other disciplines. Of the total hired, 50% (249 out of 501) were management school graduates. Expressed differently, 3.6% of all applicants were hired, but for business graduates 10.4% were hired.

Although 1977 was a unique year in that the Federal government employed a sizeable number of graduates with accounting qualifications, the success rate of business school graduates in relation to graduates from other disciplines has been a remarkable development since business graduates constitute only 7% of all university graduates in Canada.

Table A

Applications and Hirings of Management Graduates in the Public Service, 1977

	Number of applicants, by educational attainment					% of Total Applicants interviewed	% of Total Applicants on inventory
	B.A. (pass)	B.A. (honours)	Masters	Ph.D.	Total		
Accounting	380	434	52	-	866	100.0	86.6
Commerce	206	226	38	-	470	48.3	31.1
Finance	87	118	87	-	292	54.5	37.3
Management	175	108	109	-	392	44.6	35.7
Marketing	111	91	49	-	251	33.9	20.7
Personnel	38	73	23	-	134	33.6	24.6
Sub-total	997	1,050	358	-	2,405	N/A	N/A
Grand Total	5,626	5,869	2,304	301	14,100	40.2	25.5

Source: Public Service Commission. The assistance of Dr. Zoltan Zsigmond of Statistics Canada is gratefully acknowledged.

Table A (cont'd)

Applications and Hirings of Management Graduates in the Public Service, 1977

	Number of Applicants hired by educational attainment					% of Total Applicants Hired	% of All Applicants	% of All Hirings
	B.A. (pass)	B.A. (honours)	Masters	Ph.D.	Total			
Accounting	49	112	3	-	164	18.9	6.1	32.7
Commerce	10	13	7	-	30	6.4	3.3	6.0
Finance	3	23	3	-	29	9.9	2.1	5.8
Management	5	12	4	-	21	5.4	2.8	4.2
Marketing	1	2	-	-	3	1.2	1.8	0.6
Personnel	-	1	1	-	2	1.5	1.0	0.4
Sub-total	68	163	18	-	249	10.4	17.1	49.7
Grand Total	108	253	125	15	501	3.6	100.0	100.0

Source: Public Service Commission. The assistance of Dr. Zoltan Zsigmond of Statistics Canada is gratefully acknowledged.

CANADA COUNCIL AND ADMINISTRATIVE STUDIES:

Funding Patterns in the Mid-1970's

By

DONALD M. CASKIE

21 October, 1977

PREFACE

This assessment of the funding patterns of Canada Council to administrative studies was prepared for the Council of Deans of Faculties of Management Studies and Business Administration. The objectives and structure of the report were developed in conjunction with the Chairman of the Council of Deans, Dean Max Clarkson. The views expressed in the report, though, are solely those of the author.

The report focusses on the shortcomings of the current state of affairs with the intent of suggesting improvements. These shortcomings, however, appear small when viewed in the dual perspective of the impressive development which has occurred in this discipline over the past decade and a half and the positive changes that have occurred in the Canada Council's relationship with this discipline.

The sources of information used for this report are the Canada Council's Annual Reports, the studies to be mentioned in the following paragraph, special tabulations from Canada Council records, and in-depth interviews with outside appraisers of the administrative studies proposals submitted in the leave and doctoral fellowship and research grant competitions and with the Canada Council officials responsible for these programs. The reader is urged to consult the tables following the text for more detailed information than that highlighted in the text itself.

To put the current study into perspective, it would be helpful to consult the study by Dr. Max von Zur-Muehlen "University Business Education in Canada During the Sixties and Seventies" (Statistics Canada, Ottawa, April 10, 1977) and the study "Business Administration Faculty at Canadian Universities in the mid-1970's" also commissioned by the Council of Deans in the Autumn of 1977.(1)

Written comments on the present draft report are welcomed and should be addressed to the Chairman of the Council of Deans.

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(1) See also "Income Patterns of Business Graduates and Those in Other Selected Disciplines in the Mid-1970's", "Employment Patterns of Administrative Studies Graduates in the Federal Public Service in the 1970's", and "An Analysis of the Bronfman Foundation Seagram Business Fellowship Program" by Max von Zur-Muehlen and Donald M. Caskie; and "National Research Council Support for University Management Education - A Preliminary Description" by Alf Chaiton.

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Canada Council and Administrative Studies: Funding Patterns in the Mid - 1970's

Introduction

For the past two decades, the Canada Council has been an important funding agency for scholarly research in the human sciences. Generally researchers from administrative studies have neither participated in the programs of the Canada Council to the same levels as other human science disciplines nor shared the success rates of the applications from other disciplines. Naturally this has been a matter of considerable concern for those in administrative studies, as well as for Canada Council. (1) Given this state of affairs, the present study has been commissioned:

(a) to determine the magnitude and trends of these rates,
(b) to determine the reasons for these patterns, and
(c) to propose recommendations to improve the current state of affairs. (2)

While the more detailed enquiries into three major programs of the Canada Council (i.e., doctoral fellowships, leave fellowships, and research grants) follow, some general comments are worth expressing now. (3)

Administrative studies currently is best considered as a discipline or set of sub-disciplines in a state of adolescence - growing rapidly but still uncertain of its future structure, orientation, or place in the university community. The discipline is still in the process of developing experience and sophistication in its scholarly research efforts, having concentrated mainly in the past on consulting, contract research or teaching. Administrative studies has a core of researchers doing high quality scholarly research some of which has been funded by Canada Council. However, this core is small compared with the counterpart in other more established disciplines. The influx of young doctoral degree-holders into the ranks of administrative studies faculty is probably altering this pattern as they bring their research tradition with them. Administrative studies researchers, compared with those from

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(1) See the letter of Dr. Andrew Berczi, Secretary, Council of Deans of Faculties of Management and Business Administration to Mr. Frank Milligan, Associate Director for University Affairs, Canada Council on November 11, 1976 and the response of Mr. Milligan dated 19 November, 1976.

(2) The strong co-operation of Canada Council personnel connected with the leave and doctoral fellowship and the research grant programs and the Research and Analysis Section have been greatly appreciated in the preparation of this report. Great assistance was also provided by members of committees who reviewed applications for doctoral and leave fellowships for research grants.

(3) refer to next page for footnote.

traditional disciplines, not only have a different research tradition but have different sources of funding. The Canada Council has concentrated on the development of scholarly research, quite in keeping with that done by traditional disciplines such as English or history.

Administrative studies applicants to Canada Council competitions are faced with the task of preparing research submissions that differ, quite substantially, in form and substance from those going to agencies funding research not strictly scholarly in nature. Appraisers consistently cite the poor presentation of proposals, ineffective conceptualization of objectives, and weak methodology as the main reasons for rejecting applications from administrative studies researchers for funding by the Canada Council.
In the two fellowships programs, there has generally been a high degree of consensus as to the merit of proposals selected by each appraiser regardless of the discipline of the applicant or the discipline of the appraiser; the appraisers in the research grant program are drawn from the same sub-discipline as the applicant. There seems to be a general agreement on the part of the appraisers contacted that administrative studies applicants have been treated fairly and without apparent bias.

Administrative studies applicants, however, probably suffer more heavily than more traditional disciplines from the uncertainty as to the Canada Council's definition and treatment of applied research. Because of the applied nature of this discipline and the greater availability of contract research than for most other disciplines , administrative studies researchers are probably much more oriented to applied than theoretical research, whether it be scholarly or not. This uncertainty of definition, however, is faced by all disciplines alike regardless of the

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(3) Data has been collected on business administration, educational administration, hospital administration industrial relations and public administration; these disciplines, combined, have been termed "administrative studies". This definition is that of Canada Council, with the exception of industrial relations which has been included by the author. However, the analysis of the development of the discipline and the reasons for the current situation are based almost exclusively on the experience of business administration, the largest component of administrative studies.

merit of the proposal and there has been no deliberate policy to apply it unfairly to administrative studies relative to other disciplines. For the sake of all disciplines, and particularly those like administrative studies which are oriented to applied research, greater clarity and preciseness of the Canada Council's definition of applied research is needed.

The recommendations accordingly concentrate on improving the research skills of those in administrative studies, increasing participation, and allowing both potential applicants and the Canada Council to maximize their research efforts by delineating clearly the types of research which the Canada Council is prepared to fund.

Criticism of the Canada Council for unfairness or deliberate negative bias against administrative studies during the years of the mid - 1970's is invalid. During the earlier years, when appraisers from other disciplines reviewed applications from researchers in administrative studies with little, if any, participation from peers in their discipline, charges of bias, even then most probably not deliberate on the part of the Canada Council, emerged and this myth has been slow in dying and may still be responsible for the reluctance of some potential applicants to make research submissions. Attention should be directed instead to encouraging the Canada Council to greater promotion of research capabilities in Canada and clarification of its mandate relative to current research concerns.

The Doctoral Fellowship Program

The Canada Council, through its doctoral fellowship program, has been a significant factor in the increase in the number of doctoral degree holders in the human sciences since the 1960's.(1) Administrative studies doctoral students have benefitted from this program but their participation and success rate in getting fellowships is below that of disciplines like economics, sociology and the human science field. The success rate for new applicants in administrative studies for the period FY 1973-74 to FY 1976-77 has been 2.5 percentage points lower than the human science average and six percentage points lower than that for economics (Table A-1).(2) The success rate for business administration (24.5%) is much poorer. Industrial relations, however, had a high rate of success (44.8%). Since FY 1973-74 the success rate for business administration, like that for all disciplines combined, has gone down, however and the difference between them has widened. In FY 1976-77 over 9% points separated the business administration success rate from that of the all discipline average, whereas, economics had almost twice as high a success rate in this last competition as business administration.

Applications for Canada Council doctoral fellowships in administrative studies and in all disciplines combined have declined since FY 1973-74. For most disciplines this is a reflection of stable or declining enrolment in doctoral studies. For business administration, though, enrolment is growing, particularly in Canadian universities, yet the participation rate in the doctoral fellowship program is lower than for other major disciplines, like economics. (3) In a Canada Council study of participation rates done in September 1977, the percentage of doctoral students at Canadian universities from 1970-71 to 1975-76 who held Canada Council doctoral fellowships was lower in business administration by six percentage points than for all disciplines combined. Administrative studies from FY 1973-74 to FY 1976-77 accounted for only 3.8% of total new applications and 3.5% total new doctoral fellowships awards; the respective shares for business administration were 2.1% and 1.7%. This compares with 5.7% and 6.4% for economics.

The same comments apply to the performance of administrative studies when total awards (i.e., new awards and renewals) are considered. (Tables A2 and A3). The performance of administrative studies since FY

(1) See the Canada Council, Annual Report (selected years) and Dr. Max von Zur-Muehlen, The Doctoral Fellowship Program of the Canada Council in Review, Secretary of State; September, 1976 for historical developments.

(2) Awards made in the federal government's fiscal year, 1973-74 for example are applicable in the academic year 1974-75.

(3) According to Statistics Canada, total doctoral enrolment at Canadian universities for the academic year 1975-76 was 132 in business administration (including industrial relations) and 450 in economics.

1973-74 is comparable with that for all disciplines combined when new awards are considered as a percentage of total awards; 47% of the total awards in administrative studies were new compared with 45% for all disciplines combined.

Given the small number of doctoral programs in administrative studies in Canada, it is not surprising that a high percentage of Canadian students have applied for Canada Council Doctoral Fellowships to be applicable at foreign universities, particularly those in United States. This pattern has been changing as opportunities for doctoral study in Canada increase. A comparison of such applications for the years FY 1973-74 and FY 1976-77 reveals that the percentage of total new applications from Canadian universities has increased from 52% to 67% (Table A4). The success rate for applicants to graduate from Canadian universities in FY 1973-74 was quite similar to that of those who planned to attend U.S. universities (30% compared with 32%); in FY 1976-77, those from Canadian universities had a success rate of 16% compared with the 12% of those from U.S. universities. Renewals reveal a similar pattern with 37% and 58%, respectively, of the applicants coming from Canadian universities (Table A5). The success rate for renewals from Canadian universities while lower in FY 1973-74, is the same in FY 1976-77 as that of U.S. universities.

On a university basis, Toronto and Western Ontario figure prominently in terms of the share of new and renewal applications in both years studied. Amongst U.S. universities the applications are fairly evenly distributed and given the small numbers involved per institution it is impossible to ascertain any distinct preference trends (Table A-6 and A-7).

Why does administration studies have a lower success rate than economics, for example, in getting new awards from the doctoral fellowship program of the Canada Council? Several reasons can be suggested for this, including the state of development of the discipline, the nature of the discipline, and the assessment process used by the Canada Council.

In critically reviewing the assessment process of the Canada Council, no substantial fault has been found of the fairness of the assessors in evaluating business administration applications although there are some structural changes suggested to more adequately reflect the realities of business administration as a discipline.

The assessment committee for business administration is composed of those with economics, mathematics, and business administration expertise since all of these disciplines are included in the same discipline group as business administration.(1) Each application is evaluated on its own merit, taking into consideration the academic background of the applicant, the research committment and thesis proposal, and the letters of reference.
Since the Canada Council views the doctoral degree to be primarily a research degree, strong emphasis is placed on the applicant's ability to prepare a well-thought-out and viable research proposal. Given the diversity of disciplines present on the review committee, great importance has been placed on the ability of the assessors to review each application with fairness and without bias either to discipline or topic; from all reports so far received, this objective has been admirably achieved.

Some criticisms have been raised that business administration should be given a separate committee and a separate budget since the nature of the discipline is much more multidisciplinary than either economics or mathematics, that it is more amenable to applied research than the other two disciplines and that it is still in a developmental stage compared with the other two. The Canada Council has considered this suggestion, but has rejected it for two reasons: first, it does not believe that each discipline should have separate criteria for evaluation since scholarship is indivisible in terms of standards of merit and performance and, secondly, it considers the cost factors too great, given the current financial constraints, to strike a separate committee for a discipline that has had only 37 new applications in FY 1976-77 (in the same year, economics had 111). Perhaps consideration could be given to combining business administration with all multi-disciplinary subjects in an effort to reflect more closely the nature of the discipline than is presently the case; the numbers may also be sufficient to make it financially feasible.

The most prominent reason for the low success rate is not the "unfairness" of the Canada Council, but the performance of the applicants themselves. Some business administration applicants, when compared with those in other disciplines like economics, have poorer academic capabilities for scholarly research. This is not an uncommon situation in a discipline which is growing rapidly - other disciplines which experienced rapid growth in the preceeding decade underwent similar growing pains. However, it is highly probable that the majority of doctoral students in business

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(1) Mathematics is also funded by National Research Council.

administration simply have not been sufficiently exposed to the research tradition to effectively compete with economists or historians who have this mental outlook and research experience instilled in them during their early undergraduate years. Generally business administration doctoral students not only lack this research continuity but also lack the committment to a single discipline carried from bachelors through masters to the doctoral stage of their training. The M.B.A. degree is such a conglomerate degree combining the applied and the theoritical (emphasis usually on the former), and the professional and the academic (again emphasizing the former). The academic background of students is ecumenical; they usually get their degree on the basis of courses exclusively and have no experience in writing a substantial piece of research as exemplified by a thesis. They are more likely to have full-time labour force experience, thus breaking their academic continuity than students in economics or history, for example. They are going into departments that are just developing research capabilities; a much lower percentage of the faculty in business administration have scholarly research experience than do faculty in economics. Yet many universities offering doctoral degrees in business administration are still undecided as to how much of a professional or research/academic direction their degree should have; at these campuses the new doctoral student will be affected by this uncertainty.

Given this background, it is evident that the doctoral student in business administration has many more obstacles to overcome than his colleague in economics should he or she wish to pursue a research/academic career. For this individual, it would seem that the prime source of help should come from the faculty/department of business administration, particularly from those professors who have a strong committment to research and are experienced in this area. The faculty/department of business administration could be particularly involved in helping the student apply for the Canada Council doctoral fellowship.

Developing a research proposal based on sound objectives and methodology and completing an application for research support require considerable skill to be done well and this is one area in which applications from business administration need substantial improvement to match the standards applicable in other disciplines.

Leave Fellowship Program

In the human sciences, Canada Council leave fellowships provide university teachers going on sabbatical leave an important financial supplement to their research activities.(1) For administrative studies and particularly for business administration the participation in the program is lower and the success rate in obtaining a fellowship is much poorer than for disciplines like economics and English or for all disciplines combined.(2)

Business administration faculty have made only 74 applications over the past four years compared with the 184 submitted by economists even though there are more faculty in the former discipline (Table B-1). Even allowing for higher ineligibility of the former due to a higher percentage of their numbers being hired within the past seven years than is true for economics, the participation rate is still extremely low.

Two of the major reasons for this low participation rate are the availability of alternative forms of supporting activity during the sabbatical leave and the probability that the research project would not be acceptable from a content point of view to the Canada Council. These alternatives may involve either conducting research at a university in Canada or abroad where facilities and financial support are made available in lieu of a small teaching committment, or acting as a consultant on a research project. In the latter case, the interest in the project may or may not be as important as the financial benefits derived. Given the current shortage of qualified business administration professors, especially those holding doctoral degrees, the opportunities of professors in this discipline to choose alternative forms of funding for their sabbatical year are much greater than professors of English or history; for the latter, the only alternative to the Canada Council is a shorter leave or "penny pinching". Because of the strong strains of professionalism in business schools even amongst professors with Ph.D.'s (e.g., compare the applied Harvard degree to the research oriented Chicago degree), it is not surprising that some faculty would not even consider applying for a Canada Council leave fellowship because their perspectives and objectives are vastly different from those currently held by the Canada Council.

The low success rate of those in business administration is a matter of concern. Since FY 1973-74, the rate for these four years combined has only been 34% compared with 46% for economics and 48% for all applicants; industrial relations and public administration have had a higher success rate than business but educational administration has been lower.

(1) The average award in FY 1976-77 was valued at $10,087.

(2) In 1974-75 Statistics Canada reports there were 1,227 faculty of business administration (includes industrial relations) and 952 faculty in economics.

The assessment committee of the Canada Council has, for the past few years, included business administration appraisers in its ranks, along with professors representing the other disciplines reviewed by this committee (i.e., demography, economics, information sciences and mathematics). As with the doctoral fellowships committee, the leave fellowships committee has considered each application on the basis of its own merits and the rankings of the applications have been very similar regardless of the discipline of the assessor. The fairness and objectivity of the committee in assessing business administration applications has been established and those questioning the low success rate in this discipline should look for reasons elsewhere.

There does not seem to be any significant bias either as regards the size of the school to receive awards. Over the past four years, awards have gone to both large and small universities. In FY 1976-77, business administration applicants from major schools, such as Toronto and Western Ontario, were no more successful than those from smaller schools, such as St. Mary's and Carleton; the recipients (i.e., from Laval, McMaster, University of British Columbia and University of New Brunswick) come not only from different size schools but also from different regions of the country (Table B-2).

The main reasons for the poor showing of business administration faculty would appear to be the weaker research experience of applicants as compared with those from other disciplines. Not only do the proposed research activities seem in general to be less well-defined and less rigourous, methodologically speaking, but the research "track record" of the applicants from business administration also shows less strength than those of the applicants from economics, for example.

It is highly probable that the most qualified professors in business administration are not applying for leave fellowships, but are utilizing the alternatives mentioned earlier; thus the business administration applicants probably have a lower percentage of top researchers and scholars from their discipline than does economics - an important distinction in questioning the differences in success rate. Generally, the actual applications prepared by business administration faculty display less finesse and presentability than those from economics, for example; the skill of writing applications is one learned by experience and strong involvement in the research tradition. A poorly written proposal at the leave fellowship level indicates that the applicant has had limited experience in scholarly research projects involving outside funding; if the applicant after a minimum of six

years of opportunity to "learn the ropes" still cannot prepare a sound proposal, there is little optimism regarding the results of immersion in a "crash" course in research methodology and proposal writing. Nevertheless, the recommendations to be proposed (e.g., workshops and a handbook on proposal writing) may be of some assistance for potential applicants to the leave fellowship competition.

Certainly, business administration faculty should be encouraged to apply for leave fellowships. It is hoped that, in particular, those faculty with Ph.D.'s and strong research committments, who have been hired in the late 1960's and 1970's, will give serious consideration to the Canada Council alternative.

The same arguments apply to re-structuring the leave fellowships committees to take into account the multi-disciplinary, applied and "infant industry" aspects of business administration. For the doctoral fellowship committee, the same counter arguments prevail: even more so on the financial side, given the handful of applications received.

Research Grant Program

Administrative studies has a low participation rate as well as a low success rate in competitions for research grants from Canada Council.

Even though administrative studies has a larger number of faculty than economics, the number of applications submitted by those in administrative studies in the last four years is only a little over half that of those in economics. (1) It is encouraging, though, to see that the number of applications in administrative studies has increased over the four years while there have been declines registered in such disciplines as economics, English, and sociology together with a decline in total applications. Applications from business administration account for only 1.2% of total applications in FY 1973-74; by FY 1976-77 this percentage had risen to 3.9%. (Table C-1).

The success rate for administrative studies for the four years since FY 1973-74 has averaged just under 50%. This is a poor showing considering that the average for all disciplines combined was 71%. In comparison with economics, business administration was 20% points lower. It should be noted that industrial relations (68%) had a rate comparable with the all discipline average.

Similar patterns prevail whether one studies the number of scholars applying or the amount of funds applied for and awarded (Tables C-2 and C-3). In the latter instance, when comparison was made of amounts awarded relative to amount of fund requested per project, administrative studies again

(1) It should be noted that not all applications from administrative studies faculty appear as administrative studies proposals. Because of the multidisciplinary nature of administrative studies, those researchers with backgrounds in economics, psychology or sociology for instance may apply in these disciplines instead, for whatever reasons, even though the subject of the research may be in the administrative studies area.

Likewise, faculty from other disciplines separate from that of administrative studies may propose research on administrative studies subjects. The disciplines mentioned in the previous paragraph are most likely to do this.

fared worse than the total of all disciplines combined or specific disciplines such as economics or English. Not only is the success rate poorer for administrative studies but those applying are, in the eyes of the Canada Council and its assessors, overestimating the amounts to be spent on the project (Tables C-4 and C-5).

An examination has been made of some of the characteristics of applicants and recipients of Canada Council research grants. The sex, age, occupation and university or geographical location of the researchers were examined. The dollar values of the projects were ascertained. The extent of team research done in administrative studies was probed and the above profile extended to team researchers. Applicants for two separate years (FY 1973-74 and FY 1976-77) were studied to get a more balanced picture of applicants and to discover what changes had taken place in the interval.

For the two years studied not one female applied for a Canada Council research grant in administration studies. (Table C-6 and C-7) This is atypical both of other disciplines and administrative studies. In FY 1975-76, a year for which information is available, 13% of the total applications to this competition were from women (women also received 13% of the awards). In the 1976-77 academic year, 8% of the faculty in business administration teaching in Canadian universities were women. Are these women not applying because they are not motivated to do research or are there other reasons for this male domination of research applications to the Canada Council?

The applicants for and recipients of research grants in administrative studies are on the whole fairly young (Table C-8 and C-9). Those in the age group 30-39 accounted for 54% of the applicants and 58% of the recipients; in business administration this group represented an even larger percentage in both categories. Over three-quarters of all applicants in administrative studies were 49 years of age or under, while 90% of the recipients were in this age group. The percentage in this age group in administrative studies has increased between FY 1973-74 and FY 1976-77. In FY 1973-74, Canada Council studied the age distribution of all applicants for research grants; 49% of the applicants were between 30 and 39, while 82% were 49 or under.(1) Compared with these figures, the applicants from business administration were generally younger in age and more heavily concentrated in the age group 30 - 39.

While researchers outside of the university community do apply for research grants from Canada Council, the vast majority of

applications come from university faculty (Tables C-10 and C-11). Over 95% of the administrative studies applications were from this source; for both years studied, all of the business administration applications were submitted by university faculty. This compares closely with the pattern for all disciplines combined.

Of the university-based applicants in administrative studies just under 30% were assistant professors; this is comparable to the distribution for all applicants. Just over three-fifths of the administrative studies and total applicants were either assistant or associate professors.

Compared with the rank distribution of university faculty in Canada, the full professors applying to Canada Council in business administration are under-represented, the associate professors are over-represented, the assistant professors are well represented, while ranks below assistant professor are almost not represented at all.

The rank distribution of recipients of research grants in administrative studies is close to that already established for applicants.

In administrative studies, the majority of applicants are requesting funding of $9999 or less (Tables C-12 and C-13). Of the 63 project applications for the two years studied, 56% were in this range. Less than 15% of the 63 applicants asked for $20,000 or more. On the awards side, of the 31 grants made, 68% were for amounts $9999 or less and only 3% for projects over $20,000. Most of the projects receiving funding were small to medium in scale by Canada Council standards.

Considerable improvement in the number of applications for research grants is evident in all regions when FY 1973-74 and FY 1976-77 applications in business administration are compared (Table C-14). In all regions increases were registered. No clear pattern prevails regarding performance by an individual university although some universities are more prominent than others; in FY 1976-77, for instance, four schools, British Columbia, McGill, Toronto and York accounted for 45% of all applications.

Team research (i.e., more than one principal investigator and

recorded by the name of the investigator submitting the project) is still a minority effort in Canadian scholarly research as measured by applications to and awards of Canada Council for research grants.

The average number of scholars per project funded by Canada Council over the past four years combined is only 1.2 for all disciplines (Table C-15). Administrative studies recorded the same figure, but business administration registered 1.1. For two of the four years studied, there were no team projects funded in business administration.

Of the 63 project applications in administrative studies made during the two years FY 1973-74 and FY 1976-77 only 12 were team projects. Team research accounted for 19% of the applications and 13% of the awards. In business administration the percentages were 19 and 10, respectively; in FY 1976-77 none of the 15 grants made was for team research.

Both in terms of applications and awards, those doing team research in administrative studies are fairly young -- younger than is the case for single researchers (Tables C-8 and C-9). For the two years studied, 75% of the team research applicants, as measured by the age of the principal investigator, were 30 - 44 (compared with 68% for all administrative studies applicants).

All of the team research applications for the two years studied have come from the university sector (Tables C-10 and C-11). Again as measured by the rank of the principal investigator, team research tends to be focused on those who are either assistant or associate professors. Of those applications in administrative studies involving team research, 83% of the principal investigators came from these two ranks; for all applicants in the same discipline, the corresponding percentage was only 64.

It is not surprising, therefore, that the money requested for team research projects is much greater than is the case for single researcher studies (Tables C-12 and C-13). Only 17% of the team projects in administrative studies for FY 1973-74 and FY 1976-77 asked for funding $9999 or less; the corresponding percentage for all applicants was 56%. Three-quarters of the team projects asked for $15,000 or more. However, of those projects actually to receive grants, the distribution of size of funding

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showed less difference. All of the team projects funded received $19,999 or less each. However, none of the team projects received $4,999 or less, while 29% of all of the administrative studies projects received this amount.

The low performance level in administrative studies already described is also found in output from research grants in this discipline.

Based on a survey of its 1972-73 research grant recipients, the Canada Council recorded the number and type of publications arising out of these grants on a discipline basis (Table C-16). Whether the publication rate is adjusted (i.e., to take account of the various types of publications) or unadjusted, administrative studies displayed much poorer performance than all disciplines combined or individual disciplines like economics or psychology. While there were only four award holders in administrative studies they produced less than a fifth unadjusted publications or less than a half adjusted, of those produced by sociology a discipline with double the award-holders.

Why are the participation and success rates so low?

It is probable that the participation rate is low because until recently the proportion of business faculty interested in and experienced in doing scholarly research as favoured by the Canada Council has been in the minority. With young doctorates entering the university business schools fresh from their thesis research, it is expected that many of these will want to continue in the scholarly research tradition and hence will make application to the Canada Council as one of the few sponsors of this form of research in Canada. The remainder of the faculty is doing private scholarly research not funded from outside or is looking to other sponsors like industry or government for research funding (frequently on a contractual basis whereby the purchaser has exclusive rights over the research results). Administrative studies, unlike most other disciplines funded by the Canada Council has many more alternatives (and perhaps temptations) to the funding provided by the Canada Council; these alternatives are frequently more lucrative financially and also subject to different control than the Canada Council research grants.

As far as the success rate is concerned, the onus for the poor showing by administrative studies applicants rests with the applicants themselves.

In the 1960's and early 1970's, the charge that these applicants were at the mercy of appraisers from other disciplines, like economics was true, but this is no longer the case. Now, for example, not only for business administration as a whole but more particularly for all the sub-disciplines within business administration, there are appraisers drawn to match the discipline of the applicant. The appraisers are peers who know the subject matter and the possible research methodologies of the proposal well and can offer a fair and unbiased assessment of the worth of the project. Applicants that are unsuccessful are allowed to see the criticisms of their project.

There are two forms of rejection; an outright one stipulating the Canada Council's unwillingness to fund it under any circumstances (business administration, it seems has received about the same share of this form of rejection as other disciplines like economics, for instance), and second, is the conditional rejection which encourages the applicant to re-submit the proposal at a later data providing the criticisms of the appraisers are considered in the revised application.

The review process for applications for business administration in recent years has been characterized by fairness, concern, and helpfulness. The low success rate is a reflection of weakly conceived and poorly developed project proposals. Compared with other disciplines, such as economics, business administration applicants have a larger share displaying scholarly research skills poorly developed for the type of research currently funded by Canada Council.

Some applicants from business administration, for those specializing in operations research, may have applied to Canada Council when they should have applied elsewhere. Even though the project may be conceptually good and methodologically sound, it could fall outside the perceived mandate of the Canada Council. While applicants from any discipline could be faced with the same situation, business administration, given both its applied nature and the unfamiliarity of some of its researchers in the types of projects acceptable to the Canada Council, may be more subject to this area of uncertainty more than others. To clarify this issue, one of the recommendations is directed to the definition of applied research by the Canada Council and its funding policy to this type of research.

Recommendations:

Recommendations are being addressed both to the Canada Council and to the university faculties or departments of administrative studies. In the implementation of most of them, it would seem normal that the substance and timing would be negotiated on a bilateral basis involving representatives from the Canada Council and from the discipline of administrative studies.

The Canada Council might consider:

1) The funding of research methodology workshops for all disciplines and sub-disciplines, but especially the emerging disciplines like administrative studies. The workshops should concentrate initially on improving the ability of faculty and other qualified researchers, including doctoral students,to prepare research proposals, especially those to be submitted to the Canada Council. Given the weak performance of applicants in administrative studies high priority should be given to scheduling workshops for this discipline early in the schedule. (1)

2) The publication of a handbook designed to show prospective applicants how to prepare scholarly research proposals for its various competitions.(May also be usefull for applications to other funding agencies). Examples of well-written and documented successful applications to the Canada Council ought to be included in the manual.(1)

3) Re-assessing the definition of applied scholarly research. For disciplines like administrative studies the nature of the subject matter, the goals and the methodology can be significantly different from those disciplines whose research is much less intertwined with the current and immediate realities of economic and social life. Provided the quality of the research is high in terms of content and methodology and provided the results of the research are made available to the world at large (i.e., not using public funds to support research with restricted benefit to the researcher and the subject of the investigation), and provided

(1) In terms of potential saving of time and cost of assessing applications, it would seem to be a sound economic decision to ensure that the proposals submitted to the Canada Council be sound from the beginning so that more of the resources of this body can be devoted to the funding of research rather than the overhead of appraising applications. Recommendations one and two will hopefully provide the means for this end.

the researcher gains no personal financial profit from his or her scholarly research funded by the Canada Council, there seems no reason to regard this type of research as being inferior to any other research and so less acceptable in the eyes of the Canada Council for financial support. The resolution of this issue by the Canada Council and its successor, the Social Sciences and Humanities Research Council, is crucial in light of the increased emphasis placed on this type of research by the former Minister responsible for the Ministry of State for Science and Technology, Hugh Faulkner.

(4) Developing closer ties with researchers and potential researchers (e.g., those who have received Canada Council Doctoral Fellowships) in each discipline. This would include monitoring the progress of researchers (see "An ideal odyssy" described in the introduction to the Humanities and Social Sciences Section of the Canada Council's 18th Annual Report) to ensure that the researchers know about any changes in Canada Council policies affecting applications and to encourage these researchers to develop and submit research proposals to the Council on a continuing basis. Those applicants who have good ideas but who have not received funding in any given year should be explicitly asked to re-submit their proposals, modified to take account of assessors' recommendations, in the following year's competition. The active monitoring of those with strong research capabilities is especially important in a discipline like administrative studies if the goal is to increase the research efforts in this discipline. In this discipline, unlike in many others, the opportunities for scholars to do consulting work, for example, and to consequently "drift away" from scholarly research are great; as a major funding body in human science research, the Canada Council can play a significant active role in the growth of this scholarly capability.

(5) Placing primary emphasis for the assessment of research grants on the project itself and considering only the principal researchers references and "track record" only to the extent that these indicate the ability of the researcher to complete the project within reasonable time and cost limits.

The university faculties or departments of administrative studies should consider:

(1) Serious assessment or re-assessment of their committment to conduct scholarly research, as funded by the Canada Council.

The current situation is such that some schools are developing strength in doing this type of research, others are more committed to professional education, while others are trying to do both: the overall result is that there is no clear-cut explicit definition of the schools' committment to scholarly research. Added to this uncertainty of goals is the murkiness of the very definition of administrative studies, (or management studies, or business administration) in disciplinary terms; compared with more traditional disciplines like history or economics, the former is interdisciplinary or multidisciplinary. The more traditional disciplines have a long history of scholarly research, while administrative studies, itself an evolving discipline or set of sub-disciplines,is striving to produce its own research tradition.

(2) The establishment of a screening committee in each university to review all applications in administrative studies for doctoral and leave fellowships and research grants prior to their being submitted to the Canada Council. Under the leadership of the Dean or Departmental Chairperson of administrative studies, the committee should include those faculty with strong research committments, and preferably those who are personally familiar with the requirements of the Canada Council through prior applications.

This committee ought to advise each applicant of the proposal's strengths and weaknesses, and, for insubstantial proposals, should recommend that the application not be sent until its revised version is acceptable to the committee. The committee should monitor the progress of award recipients, particularly as to their performance in publishing the results of their research.

(3) The establishment of seminars on research methodology and research proposal writing for graduate students and interested faculty. The seminars should be held at an appropriate time in the year to enable graduate students to utilize this training in applying for Canada Council doctoral fellowships.

(4) Actively encouraging potential researchers to apply to Canada Council with full assurance that the applicants will be fairly treated and creating greater awareness that well-developed scholarly proposals will receive awards regardless of the discipline of the applicant.

(5) Developing through the Council of Deans, in conjunction with the associations of professors in the various disciplines composing administrative studies, a regular organized channel of communications with the Canada Council.

TABLE A-1

CANADA COUNCIL DOCTORAL FELLOWSHIPS; NEW APPLICATIONS AND AWARDS BY DISCIPLINE, 1973-74 TO 1976-77

Discipline	Applications					Awards					Success Rate* (%) *				
	1973-74	1974-75	1976-77	1976-77	1973-74 To 1976-77	1973-74	1974-75	1975-76	1976-77	1973-74 To 1976-77	1973-74	1974-75	1975-76	1976-77	1973-74 To 1976-77
Administrative Studies	106	87	82	76	351	34	30	17	14	95	32.1	34.5	20.7	18.4	27.1
Admin. Studies	0	0	2	3	5	0	0	1	0	1	-	-	50.0	0.0	20.0
Business Admin.	49	59	47	37	192	16	13	11	7	47	32.7	22.0	23.4	18.9	24.5
Educational Admin.	43	14	16	25	98	9	12	1	5	27	20.9	85.7	6.3	20.0	27.6
Hospital Admin.	1	2	0	0	3	1	0	0	0	1	100.0	0.0	-	-	33.3
Industrial Relations	8	9	7	5	29	4	5	3	1	13	50.0	55.6	42.9	20.0	44.8
Public Admin.	5	3	10	6	24	4	0	1	1	6	80.0	0.0	10.0	16.7	25.0
Economics	142	137	128	111	518	54	43	36	40	173	38.0	31.4	28.2	36.0	33.4
English	281	227	190	165	863	80	61	52	41	234	28.5	26.9	27.4	24.8	27.1
Sociology +	167	138	127	149	581	55	44	36	55	190	32.9	31.9	28.3	36.9	32.7
Total (All Disciplines)	2,550	2,420	2,085	2,046	9,101	829	713	569	579	2,690	32.5	29.5	27.3	28.3	29.6

+ includes criminology and demography. * Success Rate = $\frac{\text{Number of Awards}}{\text{Number of Applications}} \cdot 100.0$

Source: Canada Council, Research and Analysis Section, unpublished data.

TABLE A-1 (cont'd)

CANADA COUNCIL DOCTORAL FELLOWSHIPS; NEW APPLICATIONS AND AWARDS BY DISCIPLINE, 1973-74 TO 1976-77

Discipline	Applications					Awards				
	1973-74	1974-75	1975-76	1976-77	1973-74 To 1976-77	1973-74	1974-75	1975-76	1976-77	1973-74 To 1976-77
Administrative Studies	4.2	3.6	3.9	3.7	3.8	4.1	4.2	3.0	2.4	3.5
Admin. Studies	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.2	0.0	0.1
Business Admin.	1.9	2.4	2.3	1.8	2.1	1.9	1.8	1.9	1.2	1.7
Educational Admin.	1.7	0.6	0.8	1.2	1.1	1.1	1.7	0.2	0.9	1.0
Hospital Admin.	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1
Industrial Relations	0.3	0.4	0.3	0.2	0.3	0.5	0.7	0.5	0.2	0.5
Public Admin.	0.2	0.1	0.5	0.3	0.3	0.5	0.0	0.2	0.2	0.2
Economics	5.6	5.7	6.1	5.4	5.7	6.5	6.0	6.3	6.9	6.4
English	11.0	9.4	9.1	8.1	9.5	9.7	8.6	9.1	7.1	8.7
Sociology +	6.5	5.7	6.1	7.3	6.4	6.6	6.2	6.3	9.5	7.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Canada Council, Research and Analysis Section, unpublished data.

+ includes criminology and demography

TABLE A-2

CANADA COUNCIL DOCTORAL FELLOWSHIPS, NEW AND TOTAL AWARDS BY DISCIPLINE, 1973-74 TO 1976-77

Discipline	New Awards					Total Awards				
	1973-74	1974-75	1975-76	1976-77	1973-74 To 1976-77	1973-74	1974-75	1975-76	1976-77	1973-74 To 1976-77
Administrative Studies	34	30	17	14	95	60	60	38	43	201
Admin. Studies	0	0	1	0	1	0	0	2	0	2
Business Admin.	16	13	11	7	47	36	29	21	21	107
Educational Admin.	9	12	1	5	27	12	20	5	10	47
Hospital Admin.	1	0	0	0	1	1	1	0	0	2
Industrial Relations	4	5	3	1	13	6	7	5	1	19
Public Admin.	4	0	1	1	6	5	3	5	2	15
Economics	54	43	36	40	173	107	88	79	86	360
English	80	61	52	41	234	173	136	124	113	546
Sociology +	55	44	36	55	190	127	111	85	116	439
Total	829	713	569	579	2,690	1,722	1,534	1,387	1,340	5,983

+ Includes criminology and demography.

Source: Canada Council, Research and Analysis Section, unpublished data.

TABLE A-2 (cont'd)

CANADA COUNCIL DOCTORAL FELLOWSHIPS, NEW AND TOTAL AWARDS BY DISCIPLINE, 1973-74 TO 1976-77

Discipline	New Awards as a % of Total Awards				
	1973-74	1974-75	1975-76	1976-77	1973-74 To 1976-77
Administrative Studies	56.7	50.0	44.7	32.6	47.3
Admin. Studies	-	-	50.0	-	50.0
Business Admin.	44.4	44.8	52.4	33.3	43.9
Educational Admin.	75.0	60.0	20.0	50.0	57.4
Hospital Admin.	100.0	0.0	-	-	50.0
Industrial Relations	66.7	71.4	60.0	100.0	68.4
Public Admin.	80.0	0.0	20.0	50.0	40.0
Economics	50.5	48.9	45.6	46.5	48.1
English	34.7	44.9	41.9	36.3	43.0
Sociology +	43.3	39.6	42.4	47.4	43.3
Total	48.1	46.5	41.0	43.2	45.0

+ Includes criminology and demography.

Source: Canada Council, Research and Analysis Section, unpublished data.

TABLE A-3

CANADA COUNCIL DOCTORAL FELLOWSHIP AWARDS (TOTAL) IN ADMINISTRATIVE STUDIES AND OTHER SELECTED DISCIPLINES, GROWTH TRENDS AND PERCENTAGE DISTRIBUTION, FY 1973-74 TO FY 1976-77

Discipline	1973-74 = 100.0			Percentage Distribution				
	1974-75	1975-76	1976-77	1973-74	1974-75	1975-76	1976-77	1973-74 To 1976-77
Administrative Studies	100.0	60.0	71.7	3.5	3.9	2.7	3.2	3.4
Administrative Studies	-	-	-	0.0	0.0	0.1	0.0	0.1
Business Admin.	80.6	58.3	58.3	2.1	1.9	1.5	1.6	1.8
Educational Admin.	166.7	41.7	83.3	0.7	1.3	0.4	0.7	0.8
Hospital Admin.	100.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1
Industrial Relations	116.7	83.3	16.7	0.3	0.5	0.4	0.1	0.3
Public Admin.	60.0	100.0	40.0	0.3	0.2	0.4	0.1	0.3
Economics	82.2	73.8	80.4	6.2	5.7	5.7	6.4	6.0
English	78.6	71.7	65.3	10.0	8.9	8.9	8.4	9.1
Sociology +	87.4	66.9	91.3	7.4	7.2	6.1	8.7	7.3
Total	89.1	80.5	77.8	100.0	100.0	100.0	100.0	100.0

+ Includes criminology and demography.

Source: Canada Council, Research and Analysis Section, unpublished data.

TABLE A-4

CANADA COUNCIL DOCTORAL FELLOWSHIPS: NEW APPLICATIONS AND AWARDS IN ADMINISTRATIVE STUDIES, BY REGION AND UNIVERSITY TO AWARD DEGREE, FY 1973-74 AND FY 1976-77*

Region And University	FY 1973-74		FY 1976-77		Percentages FY 1973-74		FY 1976-77	
	Applications	Awards	Applications	Awards	Applications	Awards	Applications	Awards
New Brunswick	0	0 (0.0)	1	0	(0.0) 0.0	0.0	1.5	0.0
Concordia	0	0	1	0	0.0	0.0	1.5	0.0
Laval	0	0	2	0	0.0	0.0	3.0	0.0
McGill	2	1	4	1	2.1	3.4	6.0	9.1
Montreal	4	0	4	0	4.1	0.0	6.0	0.0
Quebec	6	1 (16.7)	11	1	(9.1) 6.2	3.4	16.4	9.1
Carleton	0	0	1	0	0.0	0.0	1.5	0.0
Ottawa	8	2	2	0	8.2	6.9	3.0	0.0
Toronto	12	4	10	2	12.4	13.8	14.9	18.2
Waterloo	3	2	0	0	3.1	6.9	0.0	0.0
Western Ont.	10	3	8	2	10.3	10.3	11.9	18.2
York	1	0	1	0	1.0	0.0	1.5	0.0
Ontario	34	11 (32.4)	22	4	(18.2) 35.0	37.9	32.8	36.4
Alberta	7	3	1	0	7.2	10.3	1.5	0.0
British Columbia	3	0	7	2	3.1	0.0	10.4	18.2
Calgary	0	0	2	0	0.0	0.0	3.0	0.0
Manitoba	0	0	1	0	0.0	0.0	1.5	0.0
Western	10	3 (30.0)	11	2	(18.2) 10.3	10.3	16.4	18.2
Canada	50	15 (30.0)	45	7	(15.6) 51.5	51.7	67.2	63.6
U.S.A.	38	12 (31.6)	17	2	(11.8) 39.2	41.4	25.4	18.2
U.K.	5	1 (20.0)	3	2	(66.7) 5.2	3.4	4.5	18.2
Europe	4	1 (25.0)	2	0	(0.0) 4.1	3.4	3.0	0.0
Total Reported	97	29 (29.9)	67	11	(16.4) 100.0	100.0	100.0	100.0
Not Reported	2	0	5	1				
Total	99	29 (29.3)	72	12	(16.7)			

*Excludes industrial relations. Figures in brackets are success rates.
Source: Canada Council, unpublished data.

TABLE A-5

CANADA COUNCIL DOCTORAL FELLOWSHIPS, RENEWAL APPLICATIONS AND AWARDS IN ADMINISTRATIVE STUDIES, BY UNITED STATES UNIVERSITY TO AWARD THE DEGREE, FY 1973-74 AND FY 1976-77*

Region And University	FY 1973-74		FY 1976-77		Percentages FY 1973-74		FY 1976-77	
	Applications	Awards	Applications	Awards	Applications	Awards	Applications	Awards
McGill	1	0	0	0	2.9	0.0	0.0	0.0
Montreal	0	0	1	1	0.0	0.0	5.3	5.3
Quebec	1	0 (0.0)	1	1 (100.0)	2.9	0.0	5.3	5.3
Toronto	5	4	3	3	14.3	14.8	15.8	15.8
Western Ont.	5	5	1	1	14.3	18.5	5.3	5.3
York	0	0	1	1	0.0	0.0	5.3	5.3
Ontario	10	9 (90.0)	5	5(100.0)	28.6	33.3	26.3	26.3
Alberta	0	0	2	2	0.0	0.0	10.5	10.5
British Columbia	1	0	2	2	2.9	0.0	10.5	10.5
Manitoba	1	0	1	1	2.9	0.0	5.3	5.3
Western Region	2	0 (0.0)	5	5 (100.0)	5.7	0.0	26.3	26.3
Canada	13	9 (69.2)	11	11 (100.0)	37.1	33.3	57.9	57.9
U.S.A.	20	16 (80.0)	5	5 (100.0)	57.1	59.3	26.3	26.3
UK	1	1(100.0)	2	2 (100.0)	2.9	3.7	10.5	10.5
Europe	1	1(100.0)	1	1 (100.0)	2.9	3.7	5.3	5.3
Total	35	27 (77.1)	19	19(100.0)	100.0	100.0	100.0	100.0

*Excludes industrial relations. Figures in brackets are success rates.
Source: Canada Council, unpublished data.

TABLE A-6

CANADA COUNCIL DOCTORAL FELLOWSHIPS, NEW APPLICATIONS AND AWARDS IN ADMINISTRATIVE STUDIES, BY UNITED STATES UNIVERSITY TO AWARD DEGREE, FY 1973-74 AND FY 1976-77*

University	FY 1973-74		FY 1976-77		Percentages FY 1973-74		FY 1976-77	
	Applications	Awards	Applications	Awards	Applications	Awards	Applications	Awards
Calif. (Berkeley)	1	0	1	0	2.6	0.0	5.9	0.0
Calif. (Los Angeles)	2	1	0	0	5.3	8.3	0.0	0.0
Calif. (Santa Barbara)	0	0	1	0	0.0	0.0	5.9	0.0
Chicago	1	0	1	0	2.6	0.0	5.9	0.0
Claremont	1	0	0	0	2.6	0.0	0.0	0.0
Colorado	3	2	0	0	7.9	16.7	0.0	0.0
Columbia	1	0	0	0	2.6	0.0	0.0	0.0
Cornell	2	1	0	0	5.3	8.3	0.0	0.0
Harvard	3	0	2	0	7.9	0.0	11.8	0.0
Illinois	3	1	2	1	7.9	8.3	11.8	50.0
Indiana	1	1	0	0	2.6	8.3	0.0	0.0
Kansas	0	0	1	0	0.0	0.0	5.9	0.0
Massachussets	1	0	1	0	2.6	0.0	5.9	0.0
M.I.T.	3	2	1	0	7.9	16.7	5.9	0.0
Michigan	0	0	1	1	0.0	0.0	5.9	50.0
Minnesota	2	1	1	0	5.3	8.3	5.9	0.0
Missouri	1	0	0	0	2.6	0.0	0.0	0.0
New York	1	0	0	0	2.6	0.0	0.0	0.0
Ohio	2	0	0	0	5.3	0.0	0.0	0.0
Oregon	3	2	1	0	7.9	16.7	5.9	0.0
Penn State	1	0	0	0	2.6	0.0	0.0	0.0
Purdue	0	0	1	0	0.0	0.0	5.9	0.0
Rutgers	0	0	1	0	0.0	0.0	5.9	0.0
Stanford	1	0	1	0	2.6	0.0	5.9	0.0
Syracuse	1	0	0	0	2.6	0.0	0.0	0.0
Texas	2	0	0	0	5.3	0.0	0.0	0.0
Washington	0	0	1	0	0.0	0.0	5.9	0.0
Wayne	1	0	0	0	2.6	0.0	0.0	0.0
Yale	1	1	0	0	2.6	8.3	0.0	0.0
U.S.A.	38	12	17	2	100.0	100.0	100.0	100.0

*Excludes industrial relations.

Source: Canada Council, unpublished data.

TABLE A-7

CANADA COUNCIL DOCTORAL FELLOWSHIPS, RENEWAL APPLICATIONS AND AWARDS IN ADMINISTRATIVE STUDIES, BY UNITED STATES UNIVERSITY TO AWARD THE DEGREE, FY 1973-74 AND FY 1976-77*

University	FY 1973-74		FY 1976-77		Percentages FY 1973-74		FY 1976-77	
	Applications	Awards	Applications	Awards	Applications	Awards	Applications	Awards
Calif. (Berkeley)	2	2	1	1	10.0	12.5	20.0	20.0
Calif. (Los Angeles)	3	3	0	0	15.0	18.8	0.0	0.0
Carnegie Mellon	2	2	0	0	10.0	12.5	0.0	0.0
Cornell	2	2	0	0	10.0	12.5	0.0	0.0
Harvard	1	1	1	1	5.0	6.3	20.0	20.0
Illinois	0	0	2	2	0.0	0.0	40.0	40.0
M.I.T.	0	0	1	1	0.0	0.0	20.0	20.0
Michigan	1	1	0	0	5.0	6.3	0.0	0.0
Michigan State	1	0	0	0	5.0	0.0	0.0	0.0
Northwestern	1	1	0	0	5.0	6.3	0.0	0.0
Oregon	1	0	0	0	5.0	0.0	0.0	0.0
Stanford	3	1	0	0	15.0	6.3	0.0	0.0
Syracuse	1	1	0	0	5.0	6.3	0.0	0.0
Wisconsin	2	2	0	0	10.0	12.5	0.0	0.0
U.S.A	20	16	5	5	100.0	100.0	100.0	100.0

*Excludes industrial relations.
Source: Canada Council, unpublished data.

Table B-1

Canada Council Leave Fellowships Going to Administrative Studies and Other Selected Disciplines, FY 1973-74 to FY 1976-77

Discipline	Applications (Number)					Awards (Number)					Success Rate %*				
	1973-74	1974-75	1975-76	1976-77	1973-74 to 1976-77	1973-74	1974-75	1975-76	1976-77	1973-74 to 1976-77	1973-74	1974-75	1975-76	1976-77	1973-74 to 1976-77
Administrative Studies	22	32	34	27	115	8	17	11	8	44	39.1	53.1	32.4	29.6	38.3
Admin. Studies	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-
Business Admin.	10	22	26	16	74	3	12	6	4	25	36.4	54.5	23.1	25.0	33.8
Educational Admin.	7	5	0	0	12	1	2	0	0	3	14.3	40.0	-	-	25.0
Hospital Admin.	1	0	0	0	1	1	0	0	0	1	100.0	-	-	-	100.0
Industrial Relations	1	0	8	6	15	1	0	5	1	7	100.0	-	62.5	16.7	46.7
Public Admin.	3	5	0	5	13	2	3	0	3	8	66.7	60.0	-	60.0	61.5
Economics	54	35	32	63	184	25	18	12	30	85	46.3	51.4	37.5	47.6	46.2
English	91	91	93	79	354	53	41	37	38	169	57.4	45.1	39.8	48.1	47.7
Sociology +	36	44	61	67	208	17	22	18	30	87	46.3	50.0	29.5	44.8	41.8
Total	614	736	843	808	3001	339	368	346	378	1431	54.1	50.0	41.0	46.9	47.7

Percentage Distribution

Discipline	Applications					Awards				
	1973-74	1974-75	1975-76	1976-77	1973-74 to 1976-77	1973-74	1974-75	1975-76	1976-77	1973-74 to 1976-77
Administrative Studies	3.6	4.3	4.0	3.3	3.8	2.4	4.6	3.2	2.1	3.1
Admin. Studies	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Business Admin.	1.6	3.0	3.1	2.0	2.5	0.9	3.3	1.7	1.1	1.7
Educational Admin.	1.1	0.7	0.0	0.0	0.3	0.3	0.5	0.0	0.0	0.2
Hospital Admin.	0.2	0.0	0.0	0.0	0.1	0.3	0.0	0.0	0.0	0.1
Industrial Relations	0.2	0.0	0.9	0.7	0.5	0.3	0.0	1.4	0.3	0.5
Public Admin.	0.5	0.7	0.0	0.6	0.4	0.6	0.8	0.0	0.8	0.6
Economics	8.8	4.8	3.8	7.7	6.1	7.4	4.9	3.5	7.9	5.9
English	14.8	12.4	11.0	9.8	11.8	15.6	11.1	10.7	10.1	11.8
Sociology +	5.9	6.0	7.2	8.3	6.9	5.0	6.0	5.2	7.9	6.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

* Success Rate = $\frac{\text{Number of Awards}}{\text{Number of Applications}} \cdot 100.0$ + includes criminology and demography

Source: Canada Council, Research and Analysis Section, Unpublished Data

Table B-2

Applications and Recipients of Canada Council Leave Fellowships in Business Administration by University of Employment, FY 1976-77

University	Requests		Awards	
	Number	%	Number	%
Successful				
Laval	1	6.3	1	25.0
McMaster	1	6.3	1	25.0
British Columbia	1	6.3	1	25.0
New Brunswick	1	6.3	1	25.0
Sub-Total	4	25.0	4	100.0
Unsuccessful				
Carleton	1	6.3	0	
Concordia	3	18.8	0	
Manitoba	1	6.3	0	
Queen's	1	6.3	0	
Sherbrooke	2	12.5	0	
Simon Fraser	1	6.3	0	
St. Mary's	1	6.3	0	
Toronto	1	6.3	0	
York	1	6.3	0	
Sub-Total	12	75.0	0	0.0
Total	16	100.0	4	100.0

Source: Canada Council, unpublished data.

Table C-1

Canada Council Research Grant Project Applications and Awards in Administrative Studies and Other Selected Disciplines, FY 1973-74 to FY 1976-77

Discipline	Number of Project Applications					Number of Project Awards					Success Rate %*				
	1973-74	1974-75	1975-76	1976-77	1973-74 to 1976-77	1973-74	1974-75	1975-76	1976-77	1973-74 to 1976-77	1973-74	1974-75	1975-76	1976-77	1973-74 to 1976-77
Administrative Studies	22	25	46	41	134	9	10	24	22	65	40.9	40.0	52.2	53.7	48.5
Admin. Studies	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-
Business Admin.	12	13	37	31	93	6	4	20	15	45	50.0	30.8	54.1	48.4	48.4
Educational Admin.	6	1	1	0	8	1	0	0	0	1	16.7	0.0	0.0	0.0	12.5
Hospital Admin.	0	0	1	0	1	0	0	0	0	0	-	-	0.0	-	0.0
Industrial Relations	4	8	3	4	19	2	6	2	3	13	50.0	75.0	66.7	75.0	68.4
Public Admin.	0	3	4	6	13	0	0	2	4	6	-	0.0	50.0	66.7	46.2
Economics	71	76	52	57	256	51	50	30	42	173	71.8	65.8	57.7	73.7	67.6
English	77	95	69	47	288	69	82	56	38	245	89.6	86.3	81.2	80.9	85.1
Sociology +	70	70	60	49	249	43	39	39	31	152	61.4	55.7	65.0	63.3	61.0
Total	1042	1160	979	785	3966	775	789	681	551	2796	74.4	68.0	69.6	70.2	70.5

Percentage Distribution

Discipline	Number of Project Application					Number of Project Awards				
	1973-74	1974-75	1975-76	1976-77	1973-74 to 1976-77	1973-74	1974-75	1975-76	1976-77	1973-74 to 1976-77
Administrative Studies	2.1	2.2	4.7	5.2	3.4	1.2	1.3	3.5	3.9	2.3
Admin. Studies	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Business Admin.	1.2	1.1	3.8	3.9	2.3	0.8	0.5	2.9	2.7	1.6
Educational Admin.	0.6	0.1	0.1	0.0	0.2	0.1	0.0	0.0	0.0	0.1
Hospital Admin.	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Industrial Relations	0.4	0.7	0.3	0.5	0.5	0.3	0.8	0.3	0.5	0.5
Public Admin.	0.0	0.3	0.4	0.8	0.3	0.0	0.0	0.3	0.7	0.2
Economics	6.8	6.6	5.3	7.3	6.5	6.6	6.3	4.4	7.6	6.2
English	7.4	8.2	7.0	6.0	7.3	8.9	10.4	8.2	7.0	8.8
Sociology +	6.7	6.0	6.1	6.0	6.3	5.5	4.9	5.7	5.6	5.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

* Success Rate = $\frac{\text{Number of Awards}}{\text{Number of Applications}} \cdot 100.0$ +includes criminology and demography

Source: Canada Council, Research and Analysis Section, unpublished data.

Table C-2

Canada Council Research Grant Applications and Awards by Scholars in Administrative Studies and Other Selected Disciplines, FY 1973-74 to FY 1976-77

Discipline	Number of Scholars Applying					Number of Recipients					Success Rate %*				
	1973-74	1974-75	1975-76	1976-77	1973-74 to 1976-77	1973-74	1974-75	1975-76	1976-77	1973-74 to 1976-77	1973-74	1974-75	1975-76	1976-77	1973-74 to 1976-77
Administrative Studies	29	28	51	57	165	13	10	26	31	80	44.8	35.7	51.0	54.4	48.5
Admin. Studies	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-
Business Admin.	16	15	42	38	111	8	4	22	15	49	50.0	26.7	52.4	39.5	44.1
Educational Admin.	6	1	1	0	8	1	0	0	0	1	16.7	0.0	0.0	-	12.5
Hospital Admin.	0	0	1	0	1	0	0	0	0	0	-	-	0.0	-	0.0
Industrial Relations	7	9	3	4	23	4	6	2	3	15	57.1	66.7	66.7	75.0	65.2
Public Admin.	0	3	4	15	22	0	0	2	13	15	-	0.0	50.0	86.7	68.2
Economics	85	85	60	64	294	57	53	35	48	193	67.1	62.4	58.3	75.0	65.6
English	101	111	73	54	339	93	93	60	44	290	92.1	83.8	82.2	81.5	85.5
Sociology +	91	99	81	54	325	54	55	55	35	199	59.3	55.5	67.9	64.8	61.2
Total	1313	1391	1167	925	4796	929	912	797	628	3266	70.8	65.6	68.3	67.9	68.1

Percentage Distribution

Discipline	Number of Scholars Applying					Number of Grant Recipients				
	1973-74	1974-75	1975-76	1976-77	1973-74 to 1976-77	1973-74	1974-75	1975-76	1976-77	1973-74 to 1976-77
Administrative Studies	2.2	2.0	4.4	6.2	3.4	1.4	1.1	3.3	4.9	2.4
Admin. Studies	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Business Admin.	1.2	1.1	3.6	4.1	2.3	0.9	0.4	2.8	2.4	1.5
Educational Admin.	0.5	0.1	0.1	0.0	0.2	0.1	0.0	0.0	0.0	0.1
Hospital Admin.	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Industrial Relations	0.5	0.6	0.3	0.4	0.5	0.4	0.7	0.3	0.5	0.5
Public Admin.	0.0	0.2	0.3	1.6	0.5	0.0	0.0	0.3	2.1	0.5
Economics	6.5	0.6	5.1	6.9	6.1	6.1	5.8	4.4	7.6	5.9
English	7.7	8.0	6.3	5.8	7.1	10.0	10.2	7.5	7.0	8.9
Sociology +	6.9	7.1	6.9	5.8	6.8	5.8	6.1	6.9	5.6	4.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

* Success Rate = $\frac{\text{Number of Awards}}{\text{Number of Applications}} \cdot 100.0$ + includes criminology and demography

Source: Canada Council, Research and Analysis Section. Unpublished Data.

Table C-3

Value of Canada Council Research Grant Applications and Awards in Administrative Studies and Other Selected Disciplines, FY 1973-74 to FY 1976-77

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Discipline		1973-74	1974-75	1975-76	1976-77	1973-74 to 1976-77
Administrative Studies	Application	219,103	225,785	475,802	415,333	1,336,023
	Award	66,325	79,796	163,022	132,218	441,361
Admin. Studies	Application	0	0	0	0	0
	Award	0	0	0	0	0
Business Admin.	Application	117,648	107,636	394,125	415,333	1,034,742
	Award	35,990	18,998	132,322	132,218	319,528
Educational Admin.	Application	43,610	4,584	9,371	0	57,565
	Award	4,729	0	0	0	4,729
Hospital Admin.	Application	0	0	4,500	0	4,500
	Award	0	0	0	0	0
Industrial Relations	Application	57,845	70,885	30,185	31,364	190,279
	Award	25,606	20,900	5,950	17,704	70,160
Public Admin.	Application	0	42,680	37,621	177,983	258,284
	Award	0	0	20,250	44,509	64,795
Economics	Application	701,094	656,563	575,097	663,849	2,596,603
	Award	386,055	352,987	249,683	407,450	1,396,175
English	Application	337,330	507,808	422,014	388,582	1,655,734
	Award	281,339	387,493	314,549	232,047	1,215,428
Sociology +	Application	1,134,447	943,295	1,554,088	875,047	4,506,877
	Award	462,055	376,129	823,352	544,877	2,206,413
Total	Application	9,502,565	10,157,276	11,684,990	9,217,619	40,562,450
	Award	4,862,208	5,351,479	5,695,700	5,245,504	21,154,891

+ includes criminology and demography

Source: Canada Council, Research and Analysis Section, unpublished data.

TABLE C-4

AVERAGE AMOUNT OF CANADA COUNCIL RESEARCH GRANT APPLICATIONS AND AWARDS

PER PROJECT IN ADMINISTRATIVE STUDIES AND OTHER SELECTED DISCIPLINES, FY 1973-74 TO FY 1976-77

Discipline	Applications $					Awards $				
	1973-74	1974-75	1975-76	1976-77	1973-74 to 1976-77	1973-74	1974-75	1975-76	1976-77	1973-74 to 1976-77
Administrative Studies	9,959	9,031	10,343	10,130	9,970	7,369	7,979	6,792	6,009	6,790
Admin. Studies	0	0	0	0	0	0	0	0	0	0
Business Admin.	9,804	8,279	10,652	13,397	11,126	5,998	4,749	6,616	8,814	7,100
Educational Admin.	7,268	4,584	9,371	0	7,196	4,729	0	0	0	4,729
Hospital Admin.	0	0	4,500	0	4,500	0	0	0	0	0
Industrial Relations	14,461	8,861	10,062	7,841	10,015	12,803	3,483	2,975	5,901	5,397
Public Admin.	0	14,227	9,405	29,664	19,868	0	0	10,125	11,127	10,799
Economics	9,875	8,639	11,060	11,646	10,142	7,570	7,060	8,323	9,701	8,070
English	4,381	5,345	6,116	8,268	5,749	4,077	4,726	5,617	6,107	4,960
Sociology +	16,206	13,476	25,901	17,858	18,099	10,745	9,644	21,112	17,577	14,515
Total (All Disciplines)	9,119	8,756	11,935	11,742	10,227	6,273	6,782	8,363	9,519	7,566

+ includes criminology and demography

Source: Canada Council, Research and Analysis Section, unpublished data.

TABLE C-5

AVERAGE AMOUNT OF CANADA COUNCIL RESEARCH GRANT PER PROJECT AS PERCENTAGE OF AVERAGE AMOUNT OF GRANT APPLICATION PER PROJECT IN ADMINISTRATIVE STUDIES AND OTHER SELECTED DISCIPLINES, FY 1973-74 TO FY 1976-77

Discipline	1973-74	1974-75	1975-76	1976-77	1973-74 To 1976-77
Administrative Studies	74.0	88.4	65.7	59.3	68.1
Admin. Studies	-	-	-	-	-
Business Admin.	61.2	57.4	62.1	65.8	63.8
Educational Admin.	65.1	0.0	0.0	-	65.7
Hospital Admin.	-	-	0.0	-	0.0
Industrial Relations	88.5	39.3	29.6	75.3	53.9
Public Admin.	-	0.0	107.6	37.5	54.3
Economics	76.7	81.7	75.3	83.3	79.6
English	93.1	88.4	91.8	73.9	86.3
Sociology +	66.3	71.6	81.5	98.4	80.2
Total (All Disciplines)	68.8	77.5	70.1	81.1	74.0

+ Includes criminology and demography.

Source: Canada Council, Research and Analysis Section, unpublished data.

Table C-6

Total Applications For Canada Council Research Grants in Studies, by Sex of Applicant, FY 1973-74 and FY 1976-77

Discipline	Year	Sex		
		Male	Male as % of Total	Total
Business Admin.	1973-74	(4T) 12	100.0	(4T) 12
	1976-77	(4T) 31	100.0	(4T) 31
Educational Admin.	1973-74	6	100.0	6
	1976-77	0	100.0	0
Industrial Relations	1973-74	(2T) 4	100.0	(2T) 4
	1976-77	4	100.0	4
Public Admin.	1973-74	0	100.0	0
	1976-77	(2T) 6	100.0	(2T) 6
Total	1973-74	(6T) 22	100.0	(6T) 22
	1976-77	(6T) 41	100.0	(6T) 41
	1973-74 + 1976-77	(12T) 63	100.0	(12T) 63

figures in brackets are team research projects as measured by the characteristics of the principal applicant.

Source: Canada Council, unpublished data.

Table C-7

Total Applications For Canada Council Research Grants in Studies, by Sex of Recipient, FY 1973-74 and FY 1976-77

Discipline	Year	Sex		
		Male	Male as % of Total	Total
Business Admin.	1973-74	(2T) 6	100.0	(2T) 6
	1976-77	15	100.0	15
Educational Admin.	1973-74	1	100.0	1
	1976-77	0	-	0
Industrial Relations	1973-74	(1T) 2	100.0	(1T) 2
	1976-77	3	100.0	3
Public Admin.	1973-74	0	-	0
	1976-77	(1T) 4	100.0	(1T) 4
Total	1973-74	(3T) 9	100.0	(3T) 9
	1976-77	(1T)22	100.0	(1T)22
	1973-74 + 1976-77	(4T)31	100.0	(4T)31

figures in brackets are team research projects as measured by the characteristics of the principal applicant.

Source: Canada Council, unpublished data.

Table C-6

Total Applications for Canada Council Research Grants in Administrative Studies, by Age Distribution, FY 1973-74 and 1976-77

Discipline	Year	Age Distribution										% in Age Group:		
		25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65 or Older	Total	30-39	30-44	49 or Under
Business Admin.	1973-74	0	3	(3T)5	1	1	0	1	0	(1T) 1	(4T)12	(75.0) 66.7	(75.0) 75.0	(75.0) 83.3
	1976-77	1	13	(2T)6	4	(1T) 2	(1T) 2	3	0	0	(4T)31	(50.0) 61.3	(50.0) 74.2	(75.0) 83.9
Educational Admin.	1973-74	0	1	1	1	0	2	1	0	0	6	(-) 33.3	(-) 50.0	(-) 50.0
	1976-77	0	0	0	0	0	0	0	0	0	0	-	-	-
Industrial Relations	1973-74	0	(1T) 1	0	(1T) 1	0	0	0	2	0	(2T) 4	(50.0) 25.0	(100.0) 50.0	(100.0) 50.0
	1976-77	0	0	1	2	1	0	0	0	0	4	(-) 25.0	(-) 75.0	(-) 100.0
Public Admin.	1973-74	0	0	0	0	0	0	0	0	0	0	-	-	-
	1976-77	0	(2T)3	0	0	1	0	0	2	0	(2T) 6	(100.0) 50.0	(100.0) 50.0	(100.0) 66.7
Total	1973-74	0	(1T) 5	(3T) 6	(1T) 3	1	2	2	2	(1T) 1	(6T)22	(66.7) 50.0	(83.3) 63.6	(83.3) 68.2
	1976-77	1	(2T)16	(2T) 7	6	(1T) 4	(1T) 2	3	2	0	(6T)41	(66.7) 56.1	(66.7) 70.6	(83.3) 82.9
	1973-74 + 1976-77	1	(3T)21	(5T)13	(1T) 9	(1T) 5	(1T) 4	5	4	(1T) 1	(12T)63	(66.7) 54.0	(75.0) 68.3	(83.3) 77.8

figures in brackets are team research projects as measured by the characteristics of the principal applicant.

Source: Canada Council unpublished data.

Table C-9

Recipients of Canada Council Research Grants in Administrative Studies, by Age Distribution, FY 1973-74 and 1976-77

Discipline	Year	Age Distribution										% in Age Group:		
		25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65 or Older	Total	30-39	30-44	49 or Under
Business Admin.	1973-74	0	3	(2T) 3	0	0	0	0	0	0	(2T) 6	(100.0) 100.0	(100.0) 100.0	(100.0) 100.0
	1976-77	1	7	2	4	0	0	1	0	0	15	(-) 60.0	(-) 86.7	(-) 93.3
Educational Admin.	1973-74	0	0	1	0	0	0	0	0	0	1	(-) 100.0	(-) 100.0	(-) 100.0
	1976-77	0	0	0	0	0	0	0	0	0	0	-	-	-
Industrial Relations	1973-74	0	0	0	(1T) 1	0	0	0	1	0	(1T) 2	(0.0) 0.0	(100.0) 50.0	(100.0) 50.0
	1976-77	0	0	0	2	1	0	0	0	0	3	(-) 0.0	(-) 66.7	(-) 100.0
Public Admin.	1973-74	0	0	0	0	0	0	0	0	0	0	-	-	-
	1976-77	0	(1T) 2	0	0	1	0	0	1	0	(1T) 4	(100.0) 50.0	(100.0) 50.0	(100.0) 75.0
Total	1973-74	0	3	(2T) 4	(1T)1	0	0	0	1	0	(3T) 9	(66.7) 77.8	(100.0) 88.9	(100.0) 88.9
	1976-77	1	(1T)9	2	6	2	0	1	1	0	(1T)22	(100.0) 50.0	(100.0) 77.3	(100.0) 90.9
	1973-74 + 1976-77	1	(1T)12	(2T) 6	(1T) 7	2	0	1	2	0	(4T)31	(75.0) 58.1	(100.0) 80.6	(100.0) 90.3

figures in brackets are team research projects as measured by the characteristics of the principal applicant.

Source: Canada Council unpublished data.

Table C-10

Total Applications for Canada Council Research Grants in Administrative Studies, by Occupation of Applicants, FY 1973-74 and FY 1976-77

Discipline	Year	University Teachers, by Rank							Other Educ.	Govern-ment	Self-Employed	Other	Total	Univ. Teachers as % of Total	Assistant Professors & Assoc. Professors as % of Univ. Teachers	Assistant Professors & Assoc. Professors as % of Univ. Teachers
		Full	Associate	Assistant	Other	Total Reported	Not Reported	Total								
Business Admin.	1973-74	3 (3T)	5	3	(1T) 1	(4T)12	0	(4T)12	0	0	0	0	(4T)12	(100.0)	(0.0)	(75.0)
	1976-77	(1T) 8	(2T)12	(1T)10	1	(4T)31	0	(4T)31	0	0	0	0	(4T)31	100.0 (100.0) 100.0	25.0 (25.0) 32.3	64.7 (74.0) 71.0
Educational Admin.	1973-74	2	2	1	0	5	1	6	0	0	0	0	6	(-)	(-)	(-)
	1976-77	0	0	0	0	0	0	0	0	0	0	0	0	100.0 -	16.7 -	50.0 -
Industrial Relations	1973-74	1	0	(2T) 2	0	(2T) 3	0	(2T) 3	1	0	0	0	(2T) 4	(100.0)	(100.0)	(100.0)
	1976-77	2	1	0	0	3	0	3	0	0	0	1	4	75.0 (-) 75.0	50.0 (-) 0.0	50.0 (-) 33.3
Public Admin.	1973-74	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-
	1976-77	3 (1T) 2		(1T) 1	0	(2T) 6	0	(2T) 6	0	0	0	0	(2T) 6	(100.0) 100.0	(50.0) 16.7	(100.0) 33.3
Total	1973-74	6 (3T) 7		(2T) 6	(1T) 1	(6T)20	1	(6T)21	1	0	0	0	(6T)22	(100.0) 95.5	(33.3) 25.6	(83.3) 61.9
	1976-77	(1T)13	(3T)15	(2T)11	1	(6T)40	0	(6T)40	0	0	0	1	(6T)41	(100.0) 97.6	(33.3) 27.5	(83.3) 65.9
	1973-74+ 1976-77	(1T)19	(6T)22	(4T)17	(1T) 2	(12T)60	1	(12T)61	1	0	0	1	(12T)63	(100.0) 96.8	(33.3) 27.9	(83.3) 63.9

figures in brackets are team research projects as measured by the characteristics of the principal applicant.

Source: Canada Council, unpublished data.

Table C-11

Recipients of Canada Council Research Grants in Administrative Studies, by Occupation of Recipient , FY 1973-74 and FY 1976-77

Discipline	Year	University Teachers, by Rank							Other Educ.	Govern-ment	Self-Employed	Other	Total	Univ. Teachers as % of Total	Assistant Professors & Assoc. As % of Univ. Teachers	Assistant Professor As % of Univ. Teacher
		Full	Associate	Assistant	Other	Total Reported	Not Reported	Total								
Business Admin.	1973-74	1	(2T) 3	2	0	0	0	(2T) 6	0	0	0	0	(2T) 6	(100.0)	(100.0)	(100.0)
														100.0	33.3	83.3
	1976-77	3	6	5	1	0	0	15	0	0	0	0	15	(-)	(-)	(-)
														100.0	33.3	73.3
Educational Admin.	1973-74	0	1	0	0	0	0	1	0	0	0	0	0	(-)	(-)	(-)
														100.0	(0.0)	100.0
	1976-77	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-
Industrial Relations	1973-74	1	0	(1T) 1	0	0	0	(1T) 2	0	0	0	0	(1T) 2	(100.0)	(100.0)	(100.0)
														100.0	50.0	50.0
	1976-77	2	0	0	0	0	0	2	0	0	0	1	3	(-)	(-)	(-)
														75.0	0.0	0.0
Public Admin.	1973-74	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-
	1976-77	2	(1T) 2	0	0	0	0	(1T) 4	0	0	0	0	(1T) 4	(100.0)	(0.0)	(100.0)
														100.0	0.0	50.0
Total	1973-74	2	(2T) 4	(1T) 3	0	(3T) 9	0	(3T) 9	0	0	0	0	(3T) 9	(100.0)	(33.3)	(100.0)
														100.0	33.3	77.8
	1976-77	7	(1T) 8	5	1	(1T)21	0	(1T)21	0	0	0	1	(1T)22	(100.0)	(0.0)	(100.0)
														95.5	23.8	61.9
	1973-74+ 1976-77	9	(3T)12	(1T) 8	1	(4T)30	0	(4T)30	0	0	0	1	(4T)31	(100.0)	(25.0)	(100.0)
														96.8	26.7	66.7

figures in brackets are team research projects as measured by the characteristics of the principal applicant.
Source: Canada Council, unpublished data.

Table C-12

Total Applications for Canada Council Research Grants in Administrative Studies by Amount Requested, FY 1973-74 and FY 1976-77

Discipline	Year	Amount Requested $										Percentage of Total Requesting:			
		999 or Under	1000-2499	2500-4999	5000-7499	7500-9999	10,000-14,999	15,000-19,999	20,000-49,999	50,000- or more	Total	4,999 or less	9,999 or less	14,999 or less	19,999 or less
Business Admin.	1973-74	0	3	0	(2T) 3	0	(1T) 2	(1T) 4	0	0	(4T)12	(0.0) 25.0	(50.0) 50.0	(75.0) 66.7	(100.0) 100.0
	1976-77	0	0	4	4	10	5	(3T) 3	(1T) 5	0	(4T)31	(0.0) 12.9	(0.0) 58.1	(0.0) 74.2	(75.0) 83.9
Educational Admin.	1973-74	0	0	2	2	2	0	0	0	0	6	(-) 33.3	(-) 100.0	(-) 100.0	(-) 100.0
	1976-77	0	0	0	0	0	0	0	0	0	0	-	-	-	-
Industrial Relations	1973-74	0	0	0	0	0	2	(2T) 2	0	0	(2T) 4	(0.0) 0.0	(0.0) 0.0	(0.0) 50.0	(0.0) 100.0
	1976-77	0	0	1	0	3	0	0	0	0	4	(-) 25.0	(-) 100.0	(-) 100.0	(-) 100.0
Public Admin.	1973-74	0	0	0	0	0	0	0	0	0	0	-	-	-	-
	1976-77	0	0	1	0	0	0	1	(2T) 3	1	(2T) 6	(0.0) 16.7	(0.0) 16.7	(0.0) 16.7	(0.0) 50.0
Total	1973-74	0	3	2	(2T) 5	2	(1T) 4	(3T) 6	0	0	(6T)22	(0.0) 22.7	(33.3) 54.5	(50.0) 72.7	(100.0) 100.0
	1976-77	0	0	6	4	13	5	(3T) 4	(3T) 8	1	(6T)41	(0.0) 14.6	(0.0) 56.1	(0.0) 68.3	(50.0) 78.0
	1973-74 + 1976-77	0	3	8	(2T) 9	15	(1T) 9	(6T)10	(3T) 8	1	(12T)63	(0.0) 17.5	(16.7) 55.6	(25.0) 69.8	(75.0) 85.7

Source: Canada Council, unpublished data

figures in brackets are team research projects as measured by the characteristics of the principal applicant.

Table C-13

Total Applications for Canada Council Research Grants in Administrative Studies, by Amount of Award Received, FY 1973-74 and FY 1976-77

Discipline	Year	Amount Requested $										Percentage of Total Requesting:			
		999 or Under	1000-2499	2500-4999	5000-7499	7500-9999	10,000-14,999	15,000-19,999	20,000-49,999	50,000- or more	Total	4,999 or less	9,999 or less	14,999 or less	19,999 or less
Business Admin.	1973-74	0	2	0	(1T) 2	0	(1T) 2	0	0	0	(2T) 6	(0.0) 33.3	(50.0) 66.7	(100.0) 100.0	(100.0) 100.0
	1976-77	0	0	3	4	4	3	0	1	0	15	(-) 20.0	(-) 73.3	(-) 93.3	(-) 93.3
Educational Admin.	1973-74			1							1	(-) 100.0	(-) 100.0	(-) 100.0	(-) 100.0
	1976-77			0							0		-	-	-
Industrial Relations	1973-74	0	0	0	0	0	1	(1T) 1	0	0	(1T) 2	(0.0) 0.0	(0.0) 0.0	(0.0) 50.0	(100.0) 100.0
	1976-77	0	0	2	0	1	0	0	0	0	3	(-) 66.7	(-) 100.0	(-) 100.0	(-) 100.0
Public Admin.	1973-74	0	0	0	0	0	0	0	0	0	0	-	-	-	-
	1976-77	0	0	1	(1T) 1	0	0	2	0	0	4	(0.0) 25.0	(100.0) 50.0	(100.0) 50.0	(100.0) 100.0
Total	1973-74	0	2	1	(1T) 2	0	(1T) 3	(1T) 1	0	0	(3T) 9	(0.0) 33.3	(33.3) 55.5	(66.7) 88.8	(100.0) 100.0
	1976-77	0	0	6	(1T) 5	5	3	2	1	0	(1T)22	(0.0) 27.3	(100.0) 72.7	(100.0) 86.4	(100.0) 95.5
	1973-74+ 1976-77	0	2	7	(2T) 7	5	(1T) 6	(1T) 3	1	0	(4T)31	(0.0) 29.0	(50.0) 67.7	(75.0) 87.1	(100.0) 96.8

+ figures in brackets are team research projects as measured by the characteristics of the principal applicant.

Source: Canada Council, unpublished data.

Table C-14

Canada Council Research Grant Applications and Awards In Business Administration, by University, FY 1973-74 and FY 1976-77

Region & University	FY 1973-74 # of Applications	FY 1973-74 # of Awards	FY 1973-74 Success Rate	FY 1976-77 # of Applications	FY 1976-77 # of Awards	FY 1976-77 Success Rate
Atlantic Region	1	0	0.0	3	2	66.7
Dalhousie	0	0	-	1	0	0.0
Mt. St. Vincent	1	0	0.0	0	0	-
New Brunswick	0	0	-	1	1	100.0
Prince Edward Island	0	0	-	1	1	100.0
Quebec	1	1	100.0	(1T) 7	1	14.3
Concordia	0	0	-	2	0	0.0
McGill	1	1	100.0	(1T) 3	1	33.3
Montreal	0	0	-	1	0	0.0
Sherbrooke	0	0	-	1	0	0.0
Ontario	(3T) 8	(1T) 3	37.5	(1T) 12	7	58.3
Guelph	1	0	0.0	0	0	-
McMaster	(1T) 2	0	0.0	0	0	-
Ottawa	0	0	-	1	1	100.0
Queen's	(2T) 2	(1T) 1	100.0	2	2	100.0
Toronto	1	1	100.0	4	1	25.0
Waterloo	0	0	-	1	0	0.0
Windsor	1	0	0.0	1	1	100.0
York	1	1	100.0	(1T) 3	2	66.7
Western Region	(1T) 2	(1T) 2	100.0	(2T) 9	5	55.6
Alberta	0	0	-	1	1	100.0
British Columbia	(1T) 1	(1T) 1	100.0	(1T) 4	2	50.0
Manitoba	0	0	-	1	0	0.0
Saskatchewan (Regina)	1	1	100.0	0	0	-
Saskatchewan	0	0	-	(1T) 1	0	0.0
Simon Fraser	0	0	-	2	2	100.0
Canada	(4T) 12	(2T) 6	50.0	(4T) 31	15	48.4

figures in brackets are team research projects as measured by the characteristics of the principal applicant.
Source: Canada Council, unpublished data.

TABLE C-15

AVERAGE NUMBER OF SCHOLARS PER PROJECT RECEIVING A CANADA COUNCIL RESEARCH GRANT IN ADMINISTRATIVE STUDIES & OTHER SELECTED DISCIPLINES, FY 1973-74 TO FY 1976-77

Discipline	1973-74	1974-75	1975-76	1976-76	1973-74 to 1976-77
Administrative Studies	1.4	1.0	1.1	1.4	1.2
Admin. Studies	-	-	-	-	-
Business Admin.	1.3	1.0	1.1	1.0	1.1
Educational Admin.	1.0	-	-	-	1.0
Hospital Admin.	-	-	-	-	-
Industrial Relations	2.0	1.0	1.0	1.0	1.2
Public Admin.	-	-	1.0	3.3	2.5
Economics	1.1	1.1	1.2	1.1	1.1
English	1.3	1.1	1.1	1.2	1.2
Sociology +	1.3	1.4	1.4	1.1	1.3
Total	1.2	1.2	1.4	1.1	1.2

+ Includes criminology and demography.

Source: Canada Council, Research and Analysis Section, unpublished data.

Table C-16

Publications Arising from Canada Council
Research Grants Awarded in 1972-73

Discipline	Monograph or Major Reports	Other*	Total (A)	Adjusted Total (B) +	Award Holders (C)	Publication rates (A)÷(C)	Publication rates (B)÷(C)
Admin. Studies (1)	1	3	4	1.25	4	1.00	0.31
Economics	3	40	43	6.33	20	2.15	0.32
English	11	55	66	15.58	42	1.57	0.37
Psychology	9	97	106	17.08	30	3.53	0.57
Sociology (2)	1	22	23	2.83	8	2.88	0.35
Total	111	555 (x)	666	157.25	322	2.07	0.49

(1) excludes Industrial Relations

(2) exludes Criminology but includes Demography

* includes journal articles, occasional papers, papers for conferences and chapters in books.

≠ the adjusted total is derived by making the publications in the "other" category equivalent to a monograph in terms of page length; the factor used is arbitrarily set at 12:1, allowing for the average monograph to be approximately 250 pages and the average article just over 20 pages

(x) includes 4 bibliographies, 1 film and 1 microfiche index

Source: Canada Council, based on survey of 1972-73 research grant recipients

National Research Council Support for University Management Education - A Preliminary Description

by

Alf Chaiton

Prepared for

Council of Deans of Faculties
of Management and Business Administration
of Canada

Institutional and Public Finance
Statistics Branch

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PREFACE

This preliminary description of the funding patterns of the National Research Council to Management was commissioned by the Council of Deans of Faculties of Management and Business Administration. The report draws out and aggregates the data for Management for the first time.

The source of all information is a special tabulation from NRC records. In this regard, the invaluable assistance of Dr. Klaus P. Belfzner of NRC is gratefully acknowledged. The reader is urged to consult the tables following the text for more detailed information than that highlighted in the text.

This report is one of a series of studies prepared for The Council of Deans. The others are:
"Business Faculty at Canadian Universities in the Mid-1970's" by Donald M. Caskie, Alf Chaiton, and Max von Zur-Muehlen;
"Income Patterns of Business Graduates and Those in other Selected Disciplines in the Mid-1970's" by Donald M. Caskie and Max von Zur-Muehlen; "Canada Council and Administrative Studies: Funding Patterns in the Mid-1970's" by Donald M. Caskie; "An Analysis of the Bronfman Foundation Seagram Business Fellowship Program "by Max von Zur-Muehlen and Donald M. Caskie; and "Employment Patterns of Administrative Studies Graduates in the Federal Public Service in the 1970's " by Donald M. Caskie and Max von Zur-Muehlen.

The secretarial and editorial assistance of Mrs. C. Jolicoeur and Mrs. E. Kealey are also gratefully acknowledged.

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HIGHLIGHTS FROM TABLES

Introduction

This preliminary description of NRC funding to Management from 1975-76 to 1977-78 is a complement to the study by Donald M. Caskie on funding patterns by Canada Council. (1) These first results will be followed up at a later date by closer analysis of these and other data together with a set of recommendations.

It should be noted that the figures are for operating grants only. Other grants, such as team grants, co-op grants, and travelling fellowships have been excluded due to their small number.(2)

The NRC categories used in this paper to define Management were the following: Management, Systems Engineering; Commerce; College of Commerce; Management Sciences; School of Business; Business Administration; Faculty of Management; Industrial Relations; Graduate School of Business; Actuarial and Business Mathematics; Adminstrative Studies; and Public Adminstration.(3)

It should also be noted that, except for one co-op grant in Population Biology, in which the Management faculty member was not the Principal Investigator,(4) applications by faculty members from Management were made to only the following three Committees: Computing and Information Science; Pure and Applied Mathematics; and Engineering - Industrial.

(1) See Donald M. Caskie, "Canada Council and Administrative Studies: Funding Patterns in the Mid - 1970's". His report was also prepared for the Council of Deans of Faculties of Management and Business Administration.

(2) There were 4 team grants awarded in the period for a total of $14,425; 1 co-op grant (in Population Biology) for $18,000 although the faculty member from Management was not the Principal Investigator; and 2 travelling fellowships for a total of $3,866.

(3) The selection was made by Donald M. Caskie, and I acknowledge his assistance in this process.

(4) The Principal Investigator was from Plant Science.

RESULTS

Management applications and awards make up a very small part (0.6%) of NRC funding (Table 1). The amount granted to Management faculty was just 0.3% of the total amount awarded (Table 5). In sum, over the three-year period studied, 89 grants were made for a total of $544,900, an average of $6122.47 per award (Tables 1,5,9).

A number of trends were encouraging. One was the steady increase in the number of applications and awards, resulting in the totals in 1977-78 being approximately 70% higher than those for 1975-76 (Table 1). A second aspect was the tremendous increase in the amount granted to Management - the amount awarded in 1977-78 was 134% higher than that in 1975-76 (Table 5). In consequence, the average amount has been steadily rising, though it is still far behind the average of the other disciplines.

Another significant factor was the generally high calibre of the applications. Nearly 90% of all the Management applications met the standards of excellence set by NRC, falling only marginally behind all disciplines combined (Table 1).

As previously noted, the applications were concentrated entirely in three Committees; in fact, the bulk of them, over 80%, went to Computing and Information Science and Engineering - Industrial (Tables 1-4). As well, over 90% of the grants were awarded by these two committees (Tables 5-8).

Management made up an insignificant part (0.8% of the number of awards, and 0.5% of amount awarded) of Pure and Applied Mathematics (Tables 3, 7). However, all of the Management faculty who applied were successful in obtaining grants.

In Computing and Information Science, Management had 5.1% of the awards and 4.4% of the grants.

Only in Engineering - Industrial has Management been a significant factor - 25% of the awards and grants in that Committee went to Management. In fact,almost 55% of all the funds given to Management came from Engineering - Industrial (Tables 4,5,8). Only in this Committee did the average amount of award exceed that of the other disciplines combined (Tables 6,7,8). Indeed, in the other two Committees the average award to Management was

significantly lower than to the other disciplines (Tables 6,7).

Nearly 2/3 of all the awards went to three Universities: British Columbia, Waterloo, and McMaster (Table 13). British Columbia was particularly dominant in Pure and Applied Mathematics, gaining 9 of the 17 awards (Table 15), while Waterloo and McMaster together had 26 of the 39 grants in Engineering-Industrial (Table 16).

The majority of applicants and successful applicants were at the Associate Professor level, although the two other major ranks were well represented (Tables 17, 18). However, only 1 of the 17 applicants in Pure and Applied Mathematics was an Associate Professor (Table 17).

Approximately 90% of the applicants held doctoral degrees, the majority having graduated in the 1970's (Table 19).

Conclusion

Although Management plays a minor role in overall NRC funding, its share is steadily increasing. As the discipline continues to grow it should be an ever greater factor. Even now Management has a significant stake in the Engineering- Industrial Committee. Future developments should continue these trends.

TABLE 1

Applications and Awards to Management Faculty,
1975-76 to 1977-78*

	Number of Applications	Number of Awards	%	% of Total Number of Applications	% of Total Number of Awards
1975-76					
Management	25	21	84.0	0.4	0.6
Total - All Disciplines	5,638	5,124	90.9	100.0	100.0
1976-77					
Management	34	31	91.2	0.6	0.6
Total - All Disciplines	5,716	5,174	90.5	100.0	100.0
1977-78					
Management	42	37	88.1	0.7	0.7
Total - All Disciplines	5,695	5,169	90.8	100.0	100.0
Cumulative Total					
Management	101	89	88.1	0.6	0.6
Total - All Disciplines	17,049	15,467	90.7	100.0	100.0

* The source for this and all other tables is the National Research Council.

TABLE 2: Applications and Awards To Management Faculty in Computing and Information Science 1975-76 to 1977-78

	Number of Applications	Number of Awards	%	% of Total Number of Applications	% of Total Number of Awards
1975-76					
Management	10	6	60.0	4.2	3.0
All Other Disciplines	230	196	85.2	95.8	97.0
Total	240	202	84.2	100.0	100.0
1976-77					
Management	14	12	85.7	5.2	5.4
All Other Disciplines	255	211	82.7	94.8	94.6
Total	269	223	82.9	100.0	100.0
1977-78					
Management	19	15	78.9	7.3	6.8
All Other Disciplines	242	205	84.7	92.7	93.2
Total	261	220	84.3	100.0	100.0
Cumulative Total					
Management	43	33	76.7	5.6	5.1
All Other Disciplines	727	612	84.2	94.4	94.9
Total	770	645	83.8	100.0	100.0

TABLE 3: Applications and Awards To Management Faculty in Pure and Applied Mathematics 1975-76 to 1977-78

	Number of Applications	Number of Awards	%	% of Total Number of Applications	% of Total Number of Awards
1975-76					
Management	5	5	100.0	0.7	0.7
All Other Disciplines	749	688	91.9	99.3	99.3
Total	754	693	91.9	100.0	100.0
1976-77					
Management	7	7	100.0	0.9	1.0
All Other Disciplines	765	712	93.1	99.1	99.0
Total	772	719	93.1	100.0	100.0
1977-78					
Management	5	5	100.0	0.6	0.7
All Other Disciplines	780	740	94.9	99.4	99.3
Total	785	745	94.9	100.0	100.0
Cumulative Total					
Management	17	17	100.0	0.7	0.8
All Other Disciplines	2,294	2,140	93.3	99.3	99.2
Total	2,311	2,157	93.3	100.0	100.0

TABLE 4

Applications and Awards to Management Faculty in Engineering - Industrial
1975-76 to 1977-78

	Number of Applications	Number of Awards	%	% of Total Number of Applications	% of Total Number of Awards
1975-76					
Management	10	10	100.0	19.2	22.2
All Other Disciplines	42	35	83.3	80.8	77.8
Total	52	45	86.5	100.0	100.0
1976-77					
Management	13	12	92.3	21.0	20.7
All Other Disciplines	49	46	93.9	79.0	79.3
Total	62	58	93.5	100.0	100.0
1977-78					
Management	18	17	94.4	27.7	29.3
All Other Disciplines	47	41	87.2	72.3	70.7
Total	65	58	89.2	100.0	100.0
Commulative Total					
Management	41	39	95.1	22.9	24.2
All Other Disciplines	138	122	88.4	77.1	75.8
Total	179	161	89.9	100.0	100.0

TABLE 5

Amount Awarded to Management Faculty, 1975-76 to 1977-78

Year	Amount Awarded to Management Faculty	Total Amount Awarded	% Awarded to Management Faculty
1975-76	$110,250	$ 48,880,392	0.2
1976-77	$176,784	$ 51,295,114	0.3
1977-78	$257,866	$ 56,977,677	0.5
Total	$544,900	$157,153,183	0.3

TABLE 6

Amount Awarded to Management Faculty in Computing and Information Science, 1975-76 to 1977-78

Year	Amount Awarded to Management Faculty	Total Amount Awarded	% Awarded to Management Faculty
1975-76	$ 33,185	$1,663,333	2.0
1976-77	$ 64,130	$1,842,989	3.5
1977-78	$105,300	$2,142,700	4.9
Total	$202,615	$4,649,022	4.4

TABLE 7

Amount Awarded to Management Faculty in Pure and Applied Mathematics, 1975-76 to 1977-78

Year	Amount Awarded to Management Faculty	Total Amount Awarded	% Awarded to Management Faculty
1975-76	$ 2,965	$2,834,675	0.1
1976-77	$19,354	$2,926,245	0.7
1977-78	$26,416	$3,195,973	0.8
Total	$48,735	$8,956,893	0.5

TABLE 8

Amount Awarded to Management Faculty in Engineering-Industrial, 1975-76 to 1977-78

Year	Amount Awarded to Management Faculty	Total Amount Awarded	% Awarded to Management Faculty
1975-76	$ 74,100	$ 306,250	24.2
1976-77	$ 93,300	$ 395,100	23.6
1977-78	$126,150	$ 473,200	26.7
Total	$293,550	$1,174,550	25.0

TABLE 9

Average Amount Awarded to Management Faculty,
1975-76 to 1977-78

Year	Number of Awards to Management Faculty	Amount Awarded	Average Amount Awarded	Total Number of Awards	Total Amount Awarded	Average Amount Awarded
1975-76	21	$110,250	$5,250.00	5,124	$ 48,880,392	$ 9,539.50
1976-77	31	$176,784	$5,702.71	5,174	$ 51,295,114	$ 9,914.02
1977-78	37	$257,866	$6,969.35	5,169	$ 56,977,677	$11,022.96
Total	89	$544,900	$6,122.47	15,467	$157,153,183	$10,160.55

TABLE 10

Average Amount Awarded to Management Faculty in Computing and Information Science, 1975-76 to 1977-78

Year	Number of Awards to Management Faculty	Amount Awarded	Average Amount Awarded	Total Number of Awards	Total Amount Awarded	Average Amount Awarded
1975-76	6	$ 33,185	$5,530.83	202	$1,663,333	$8,234.32
1976-77	12	$ 64,130	$5,344.17	223	$1,842,989	$8,264.52
1977-78	15	$105,300	$7,020.00	220	$2,142,700	$9,739.55
Total	33	202,615	6,139.85	645	$5,649,022	$8,758.17

TABLE 11

Average Amount Awarded to Management Faculty in Pure and Applied Mathematics, 1975-76 to 1977-78

Year	Number of Awards to Management Faculty	Amount Awarded	Average Amount Awarded	Total Number of Awards	Total Amount Awarded	Average Amount Awarded
1975-76	5	$ 2,965	$ 593.00	693	$2,834,675	$4,090.44
1976-77	7	$19,354	$2,764.86	719	$2,926,245	$4,069.88
1977-78	5	$26,416	$5,283.20	745	$3,195,973	$4,289.90
Total	17	$48,735	$2,866.76	2,157	$8,956,893	$4,152.48

TABLE 12

Average Amount Awarded to Management Faculty in Engineering - Industrial, 1975-76 to 1977-78

Year	Number of Awards to Management Faculty	Amount Awarded	Average Amount Awarded	Total Number of Awards	Total Amount Awarded	Average Amount Awarded
1975-76	10	$ 74,100	$7,410.00	45	$ 306,250	$6,805.56
1976-77	12	$ 93,300	$7,775.00	59	$ 395,100	$6,696.61
1977-78	17	$126,150	$7,420.59	58	$ 473,200	$8,158.62
Total	39	$293,550	$7,526.92	162	$1,174,550	$7,250.31

TABLE 13

Number of Awards to Management Faculty,
1975-76 to 1977-78, by University

Year	British Columbia	Waterloo	McMaster	York	Ottawa	Laval	Victoria	Toronto	Others	Total
1975-76	5	6	3	1	2	0	1	1	3	21
1976-66	8	6	6	2	3	2	1	0	3	31
1977-78	9	7	6	4	0	1	1	2	7	37
Total	22	19	15	7	5	3	3	3	13	89

TABLE 14

Number of Awards to Management Faculty in Computing and Information Science, 1975-76 to 1977-78, by University

Year	British Columbia	McMaster	Ottawa	York	Laval	Saskatchewan	McGill	Others	Total
1975-76	2	1	2	1	0	0	0	0	6
1976-77	3	2	2	1	2	1	1	0	12
1977-78	3	1	0	2	1	1	1	6	15
Total	8	4	4	4	3	2	2	6	33

TABLE 15

Number of Awards to Management Faculty in Pure and Applied Mathematics, 1975-76 to 1977-78, by University

Year	British Columbia	Waterloo	Acadia	Others	Total
1975-76	2	1	1	1	5
1976-77	4	1	1	1	7
1977-78	3	1	0	1	5
Total	9	3	2	3	17

TABLE 16

Number of Awards to Management Faculty in Engineering - Industrial, 1975-76 to 1977-78, by University

Year	Waterloo	McMaster	British Columbia	Victoria	York	Toronto	Others	Total
1975-76	5	2	1	1	0	1	0	10
1976-77	5	4	1	1	1	0	0	12
1977-78	5	5	3	1	2	1	0	17
Total	15	11	5	3	3	2	0	39

TABLE 17: Applications By Management Faculty, 1975-76 to 1977-78, By Committee and Rank

Committee	Professor	Associate Professor	Assistant Professor	Others	Total
Computing and Information Science	5	20	17	1	43
Pure and Applied Mathematics	10	1	5	1	17
Engineering-Industrial	12	21	5	3	41
Total	27	42	27	5	101

TABLE 18. Awards To Management Faculty, 1975-76 to 1977-78, By Committee and Rank

Committee	Professor	Associate Professor	Assistant Professor	Others	Total
Computing and Information Science	3	16	13	1	33
Pure and Applied Mathematics	10	1	5	1	17
Engineering-Industrial	11	21	4	3	39
Total	24	38	22	5	89

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TABLE 19: Applications and Awards To Management Faculty, 1975-76 to 1977-78, By Highest Degree and Years Since Highest Degree Granted

Years Since Highest Degree	Applications			Total	Awards			Total
	Doctorate	Masters	Bachelors		Doctorate	Masters	Bachelors	
0	2			2	1			1
1	7			7	4			4
2	10			10	7			7
3	5			5	5			5
4	6			6	4			4
5	10	1		11	10	1		11
6	11	1		12	10	1		11
7	6			6	6			6
8	8			8	8			8
9	4			4	4			4
10	2			2	2			2
11	3			3	3			3
12	4			4	3			3
13	3			3	3			3
14	2			2	2			2
15	1			1	1			1
16				0				0
17				0				0
18	1			1	1			1
19	1	1		2	1	1		2
20	1			1				0
21				0				0
22	1			1	1			1
23	1			1	1			1
24	1			1	1			1

TABLE 19: Applications and Awards To Management Faculty, 1975-76 to 1977-78, By Highest Degree and Years Since Highest Degree Granted - (concluded)

Years Since Highest Degree	Applications			Total	Awards			Total
	Doctorate	Masters	Bachelors		Doctorate	Masters	Bachelors	
25				0				0
26				0				0
27				0				0
28		1		1		1		1
29		1		1				0
30		1	1	2		1	1	2
31	1		1	2	1		1	2
32	1		1	2	1		1	2
Total	92	6	3	101	80	6	3	89

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TABLE 20 : Applications and Awards To Management Faculty, 1975-76, By Highest Degree and Years Since Highest Degree Granted

Years Since Highest Degree	Applications			Total	Awards			Total
	Doctorate	Masters	Bachelors		Doctorate	Masters	Bachelors	
0	1			1	1			1
1	1			1	1			1
2	2			2	1			1
3	2			2	2			2
4	3			3	1			1
5	2	1		3	2			2
6	1			1	1			1
7	3			3	3			3
8				0				0
9	1			1	1			1
10	1			1	1			1
11	1			1	1			1
12	1			1	1			1
13	1			1	1			1
14				0				0
15				0				0
16				0				0
17				0				0
18	1			1	1			1
19				0				0
20				0				0
21				0				0
22	1			1	1			1
23				0				0
24				0				0

Table 20: Applications and Awards to Management Faculty, 1977-78, By Highest Degree And Years Since Highest Degree Granted - (concluded)

Years Since Highest Degree	Applications			Total	Awards			Total
	Doctorate	Masters	Bachelors		Doctorate	Masters	Bachelors	
25				0				0
26				0				0
27				0				0
28				0				0
29				0				0
30		1		1		1		1
31				0				0
32	1		1	2	1		1	2
Total	38	3	1	42	33	3	1	37

TABLE 21: Applications and Awards to Management Faculty, 1976-77, by Highest Degree And Years since Highest Degree Granted

Years Since Highest Degree	Applications			Total	Awards			Total
	Doctorate	Masters	Bachelors		Doctorate	Masters	Bachelors	
0	1			1				0
1	4			4	2			2
2	4			4	4			4
3	1			1	1			1
4	2			2	2			2
5	5			5	5			5
6	2			2	2			2
7	2			2	2			2
8	3			3	3			3
9	1			1	1			1
10				0				0
11	1			1	1			1
12	1			1	1			1
13	1			1	1			1
14	1			1	1			1
15				0				0
16				0				0
17				0				0
18				0				0
19	1			1	1			1
20				0				0
21				0				0
22				0				0
23	1			1	1			1
24				0				0

Table 21: Applications and Awards to Management Faculty, 1976-77, by Highest Degree And Years since Highest Degree Granted

Years Since Highest Degree	Applications			Total	Awards			Total
	Doctorate	Masters	Bachelors		Doctorate	Masters	Bachelors	
25				0				0
26				0				0
27				0				0
28				0				0
29		1		1		1		1
30				0				0
31	1		1	2	1		1	2
Total	32	1	1	34	29	1	1	31

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TABLE 22: Applications and Awards to Management Faculty, 1977-78, By Highest Degree And Years Since Highest Degree Granted

Years Since Highest Degree	Applications			Total	Awards			Total
	Doctorate	Masters	Bachelors		Doctorate	Masters	Bachelors	
0				0				0
1	2			2	1			1
2	4			4	2			2
3	2			2	2			2
4	1			1	1			1
5	3			3	3			3
6	8	1		9	7	1		8
7	1			1	1			1
8	5			5	5			5
9	2			2	2			2
10	1			1	1			1
11	1			1	1			1
12	2			2	1			1
13	1			1	1			1
14	1			1	1			1
15	1			1	1			1
16				0				0
17				0				0
18				0				0
19		1		1		1		1
20	1			1	1			1
21				0				0
22				0				0
23				0				0
24	1			1	1			1

Table 22: Applications and Awards to Management Faculty, 1975-76, By Highest Degree and Years Since Highest Degree Granted - (concluded)

Years Since Highest Degree	Applications			Total	Awards			Total
	Doctorate	Masters	Bachelors		Doctorate	Masters	Bachelors	
25				0				0
26				0				0
27				0				0
28		1		1		1		1
29				0				0
30			1	1			1	1
Total	22	2	1	25	19	1	1	21

Table 23: Applications and Awards to Management Faculty in Computing and Information Science, 1975-76 to 1977-78, by Highest Degree and Years Since Highest Degree Granted

Years Since Highest Degree	Applications			Total	Awards			Total
	Doctorate	Masters	Bachelors		Doctorate	Masters	Bachelors	
0	2			2	1			1
1	5			5	3			3
2	6			6	3			3
3	2			2	2			2
4	5			5	3			3
5	6	1		7	6			6
6	7			7	6			6
7	2			2	2			2
8	4			4	4			4
9	1			1	1			1
10	1			1	1			1
11				0				0
12				0				0
13				0				0
14				0				0
15				0				0
16				0				0
17				0				0
18				0				0
19		1		1		1		1
Total	41	2	0	43	32	1	0	33

TABLE 24: Applications and Awards to Management Faculty in Computing and Information Science, 1975-76, by Highest Degree and Years Since Highest Degree Granted

Years Since Highest Degree	Applications			Total	Awards			Total
	Doctorate	Masters	Bachelors		Doctorate	Masters	Bachelors	
0	1			1	1			1
1				0				0
2	1			1				0
3	1			1	1			1
4	3			3	1			1
5	1	1		2	1			1
6				0				0
7	2			2	2			2
Total	9	1	0	10	6	0	0	6

Table 25: Applications and Awards to Management Faculty in Computing and Information Science, 1976-77, by Highest Degree and Years Since Highest Degree Granted

Years Since Highest Degree	Applications			Total	Awards			Total
	Doctorate	Masters	Bachelors		Doctorate	Masters	Bachelors	
0	1			1				0
1	3			3	2			2
2	1			1	1			1
3				0				0
4	2			2	2			2
5	3			3	3			3
6	1			1	1			1
7				0				0
8	2			2	2			2
9	1			1	1			1
Total	14	0	0	14	12	0	0	12

Table 26: Applications and Awards to Management Faculty in Computing and Information Science, 1977-78, by Highest Degree and Years Since Highest Degree Granted

Years Since Highest Degree	Applications			Total	Awards			Total
	Doctorate	Masters	Bachelors		Doctorate	Masters	Bachelors	
0				0				0
1	2			2	1			1
2	4			4	2			2
3	1			1	1			1
4				0				0
5	2			2	2			2
6	6			6	5			5
7				0				0
8	2			2	2			2
9				0				0
10	1			1	1			1
11				0				0
12				0				0
13				0				0
14				0				0
15				0				0
16				0				0
17				0				0
18				0				0
19		1		1		1		1
Total	18	1	0	19	14	1	0	15

TABLE 27: Applications and Awards to Management Faculty in Pure and Applied Mathematics, 1975-76 to 1977-78, by Highest Degree and Years Since Highest Degree Granted

Years Since Highest Degree	Applications			Total	Awards			Total
	Doctorate	Masters	Bachelors		Doctorate	Masters	Bachelors	
0				0				0
1	1			1	1			1
2	3			3	3			3
3	2			2	2			2
4				0				0
5	1			1	1			1
6	1			1	1			1
7				0				0
8				0				0
9				0				0
10				0				0
11	1			1	1			1
12	1			1	1			1
13	2			2	2			2
14	1			1	1			1
15	1			1	1			1
16				0				0
17				0				0
18	1			1	1			1
19	1			1	1			1
20	1			1	1			1
Total	17	0	0	17	17	0	0	17

TABLE 28: Applications and Awards to Management Faculty in Pure and Applied Mathematics, 1975-76, by Highest Degree and Years since Highest Degree Granted

Years Since Last Degree	Applications			Total	Awards			Total
	Doctorate	Masters	Bachelors		Doctorate	Masters	Bachelors	
0				0				0
1	1			1	1			1
2				0				0
3	1			1	1			1
4				0				0
5				0				0
6				0				0
7				0				0
8				0				0
9				0				0
10				0				0
11	1			1	1			1
12				0				0
13	1			1	1			1
14				0				0
15				0				0
16				0				0
17				0				0
18	1			1	1			1
Total	5	0	0	5	5	0	0	5

TABLE 29: Applications and Awards to Management Faculty in Pure and Applied Mathematics, 1976-77, by Highest Degree and Years since Highest Degree Granted

Years Since Highest Degree	Applications			Total	Awards			Total
	Doctorate	Masters	Bachelors		Doctorate	Masters	Bachelors	
0				0				0
1				0				0
2	3			3	3			3
3				0				0
4				0				0
5	1			1	1			1
6				0				0
7				0				0
8				0				0
9				0				0
10				0				0
11				0				0
12	1			1	1			1
13				0				0
14	1			1	1			1
15				0				0
16				0				0
17				0				0
18				0				0
19	1			1	1			1
Total	7	0	0	7	7	0	0	7

TABLE 30: Applications and Awards to Management Faculty in Pure and Applied Mathematics, 1977-78, by Highest Degree and Years since Highest Degree Granted

Years Since Highest Degree	Applications			Total	Awards			Total
	Doctorate	Masters	Bachelors		Doctorate	Masters	Bachelors	
0				0				0
1				0				0
2				0				0
3	1			1	1			1
4				0				0
5				0				0
6	1			1	1			1
7				0				0
8				0				0
9				0				0
10				0				0
11				0				0
12				0				0
13	1			1	1			1
14				0				0
15	1			1	1			1
16				0				0
17				0				0
18				0				0
19				0				0
20	1			1	1			1
Total	5	0	0	5	5	0	0	5

TABLE 31: Applications and Awards to Management Faculty in Engineering - Industrial, 1975-76 to 1977-78, by Highest Degree and Years since Highest Degree Granted

Years Since Highest Degree	Applications			Total	Awards			Total
	Doctorate	Masters	Bachelors		Doctorate	Masters	Bachelors	
0				0				0
1	1			1	1			1
2	1			1	1			1
3	1			1	1			1
4	1			1	1			1
5	3			3	3			3
6	3	1		4	2	1		3
7	4			4	4			4
8	4			4	4			4
9	3			3	3			3
10	1			1	1			1
11	2			2	2			2
12	3			3	2			2
13	1			1	1			1
14	1			1	1			1
15				0				0
16				0				0
17				0				0
18				0				0
19				0				0
20				0				0
21				0				0
22	1			1	1			1
23	1			1	1			1

TABLE 31: Applications and Awards to Management Faculty in Engineering - Industrial, 1975-76 to 1977-78, by Highest Degree and Years since Highest Degree Granted

Years Since Highest Degree	Applications			Total	Awards			Total
	Doctorate	Masters	Bachelors		Doctorate	Masters	Bachelors	
24	1			1	1			1
25				0				0
26				0				0
27				0				0
28		1		1		1		1
29		1		1		1		1
30		1	1	2		1	1	2
31	1		1	2	1		1	2
32	1		1	2	1		1	2
Total ...	34	4	3	41	32	4	3	39

TABLE 32: Applications and Awards to Management Faculty in Engineering - Industrial, 1975-76, by Highest Degree and Years since Highest Degree Granted

Years Since Highest Degree	Applications			Total	Awards			Total
	Doctorate	Masters	Bachelors		Doctorate	Masters	Bachelors	
0				0				0
1				0				0
2	1			1	1			1
3				0				0
4				0				0
5	1			1	1			1
6	1			1	1			1
7	1			1	1			1
8				0				0
9	1			1	1			1
10	1			1	1			1
11				0				0
12	1			1	1			1
13				0				0
14				0				0
15				0				0
16				0				0
17				0				0
18				0				0
19				0				0
20				0				0
21				0				0
22	1			1	1			1
23				0				0
24				0				0

TABLE 32: Applications and Awards to Management Faculty in Engineering - Industrial, 1975-76, by Highest Degree and Years since Highest Degree Granted

Years Since Highest Degree	Applications			Total	Awards			Total
	Doctorate	Masters	Bachelors		Doctorate	Masters	Bachelors	
25				0				0
26				0				0
27				0				0
28		1		1		1		1
29				0				0
30			1	1			1	1
Total	8	1	1	10	8	1	1	10

TABLE 33: Applications and Awards to Management Faculty in Engineering - Industrial, 1976-77, by Highest Degree and Years since Highest Degree Granted

Years Since Highest Degree	Applications			Total	Awards			Total
	Doctorate	Masters	Bachelors		Doctorate	Masters	Bachelors	
0				0				0
1	1			1				0
2				0				0
3	1			1	1			1
4				0				0
5	1			1	1			1
6	1			1	1			1
7	2			2	2			2
8	1			1	1			1
9				0				0
10				0				0
11	1			1	1			1
12				0				0
13	1			1	1			1
14				0				0
15				0				0
16				0				0
17				0				0
18				0				0
19				0				0
20				0				0
21				0				0
22				0				0
23	1			1	1			1

TABLE 33: Applications and Awards to Management Faculty in Engineering - Industrial, 1976-77, by Highest Degree and Years since Highest Degree Granted

Years Since Highest Degree	Applications			Total	Awards			Total
	Doctorate	Masters	Bachelors		Doctorate	Masters	Bachelors	
24				0				0
25				0				0
26				0				0
27				0				0
28				0				0
29	1			1		1		1
30				0				0
31	1		1	2	1		1	2
Total	11	1	1	13	10	1	1	12

TABLE 34: Applications and Awards to Management Faculty in Engineering - Industrial, 1977-78, by Highest Degree and Years since Highest Degree Granted

Years Since Highest Degree	Applications			Total	Awards			Total
	Doctorate	Masters	Bachelors		Doctorate	Masters	Bachelors	
0				0				0
1				0				0
2				0				0
3				0				0
4	1			1	1			1
5	1			1	1			1
6	1	1		2	1	1		2
7	1			1	1			1
8	3			3	3			3
9	2			2	2			2
10				0				0
11	1			1	1			1
12	2			2	1			1
13				0				0
14	1			1	1			1
15				0				0
16				0				0
17				0				0
18				0				0
19				0				0
20				0				0
21				0				0
22				0				0
23				0				0

TABLE 34: Applications and Awards to Management Faculty in Engineering - Industrial, 1977-78, by Highest Degree and Years since Highest Degree Granted

Years Since Highest Degree	Applications			Total	Awards			Total
	Doctorate	Masters	Bachelors		Doctorate	Masters	Bachelors	
24	1			1	1			1
25				0				0
26				0				0
27				0				0
28				0				0
29				0				0
30		1		1		1		1
31				0				0
32	1		1	2	1		1	2
Total	15	2	1	18	14	2	1	17

APPENDIX A.

Titles of Funded Proposals by Management Faculty in Computing and Information Science, 1975-76 to 1977-78

1975-76

"Continuous zero-one algorithms for routing"
"Mathematical research in metagame theory"
"Models for multiple criteria decision-making: competitive and noncompetitive"
"Numerical solutions to non-zero-sum differential games"
"Simulation by questionnnaire"
"Studies in stochastic programming"

1976-77

"Computational approach to inventory decisions"
"Computational methods in dynamic programming"
"Etude de méthodes de programmation mathématique basées sur les techniques de relaxation"
"Mathematical research in metagame theory"
"Méthodes algorithmiques pour modéles stochastiques"
"Multiple goal decision models - theory and applications"
"Numerical solution of large-scale linearly constrained nonlinear programming problems"
"Numerical solutions to non-zero-sum differential games"
"Resource allocation under multiple criteria"
"Routing policies in a deterministic and stochastic environment, and extensions"
"Simulation by questionnaire"
"Studies in stochastic programming"

1977-78

"Analysis of scheduling policies in queueing systems"
"Computational approach to inventory decisions"
"Computational methods in dynamic programming"

"Contributions to computer and information sciences: applied systems analysis, operational research and statistical models"

"Contributions to modelling and analysis for operations management"

"Decomposition procedures for optimal control of stochastic systems"

"Effective additional constraints for some integer programming formulations"

"Etude de méthodes de programmation methématique basées sur les techniques de relaxation"

"Indefinite quadratic programming, and Nonlinear programming in a complex space"

"Multiple goal decision models - theory and applications multiattribute ranking and optimization"

"Numerical solutions to non-zero-sum differential games"

"Optimal control for multi-servers queueing system under periodic review"

"Resource allocation under multiple criteria"

"Simulation by questionnaire"

"Studies in stochastic programming"

APPENDIX B

Titles of Funded Proposals by Management Faculty in Pure and Applied Mathematics - 1975-76 to 1977-78

1975-76

"Computable applications of probability"
"Decision making with partial prior information"
"Estimation procedures for linear models with unknown covariance matrix"
"Interpretation of information for statistical inference"
"Research in multivariate statistical analysis"

1976-77

"Application of mathematical programming and game theory to problems in cepital budgeting,production planning and revenue sharing"
"Business decision making with uncertainty"
"Interval, integer and pseudo boolean programming with applications of generalized inverses"
"Issues in foundations of statistical inference, especially concerning finite populations"
"Jump-duration representation of random functions, and Representation theory for stochastic processes"
"Probabilistic languages and simulation of stochastic systems"
"Research in multivariate statistical analysis and econometrics"

1977-78

"Generalized programs and linear optimal control problems with state apparatus"
"Interval, integer and pseudo boolean programming with applications of generalized inverses"
"Issues in foundations of statistical inference, especially concerning finite populations"
"Prediction by the methods of embedded invariants, and Probability effects in optimization and control"
"Research in multivariate statistical analysis and econometrics"

APPENDIX C

Titles of Funded Proposals by Management Faculty in Engineering-Industrial
1975-76 to 1977-78

1975-76:

"Applications of probabilistic models in industrial engineering and operational research"
"Bayesian estimation and screening techniques in maintenance control"
"Contributions to industrial engineering and operational research models"
"Contributions to industrial engineering - information, communication and control in purposeful organizations"
"Decision - making in urban transportation systems"
"Development of methods for acquiring and synthesizing information for evaluating and deciding upon projects having an environmental impact"
"Human factors evaluation of visual and audio communication systems for interpersonal tasks"
"Location under conditions of change and uncertainty"
"Solution search methods"

1976-77

"Applications of probabilistic models in industrial engineering and operational research"
"Contributions to industrial engineering and operational research models"
"Contributions to industrial engineering - information, communication and control in purposeful organizations"
"Decision-making in urban transportation systems"
"Health status index models"
"Human factors evaluation of visual and audio communication systems for interpersonal tasks"
"Location under conditions of change and uncertainty, and Multistage inventory models"
"Multiperiod analysis of discrete location-allocation problems"
"Optimization of inventory policies in multi-stage production systems"
"Optimization problems in industrial stochastic service systems"
"Probabilistic methods in deterministic industrial organization problems"
"Solution seeking procedures"

1977-78

"Applications of probabilistic models in industrial engineering and operational research"
"Contributions to industrial engineering and operational research models"
"Contributions to industrial engineering - information, communication and control in purposeful organizations"
"Decision - making in urban transportation systems"
"Design of a regional transportation system"
"Development of methods for acquiring and synthesizing information for deciding on projects having an environmental impact"
"Estimation of the occurrence rates of time dependent stochastic processes"
"Health status index models"
"Heuristics in industrial engineering scheduling problems"
"Human factors evaluation of visual, audio and computer communication technologies for interpersonal tasks; a look at man-machine-man systems"
"Location under conditions of change and uncertainty, and Multistage inventory models"
"Multiperiod analysis of discrete location - allocation problems"
"Optimization in queueing models"
"Optimization of inventory policies in multi-range production systems"
"Probabilistic problems in industrial scheduling"
"Solution seeking procedures"
"The planning and control of decentralised manufacturing and production facilities"

An Analysis of the Bronfman Foundation Seagram Business Fellowship Program

by

Max von Zur-Muehlen, Ph.D.

and

Donald M. Caskie

First Draft
(restricted)

A Joint Project of
Institutions and Public Finance
Statistics Branch,
Statistics Canada
and
Council of Deans of Faculties
of Management and Business Administration

February 15, 1978

PREFACE

This study of the Seagram Business Awards is part of a series of joint projects conducted by Statistics Canada and the Council of Deans of Faculties of Management and Business Administration.(1) This project supplements the information available on the Canada Council's support programs for doctoral study and faculty research grants.

The focus of this study is to document the unique contribution the Bronfman Foundation has made to Canadian management schools and review its impact.

The Seagram Fellowship Program is being administered by the Administrative Sciences Association of Canada Awards Chairman, Professor Jean-Paul Sallenave of Sherbrooke, who has provided most of the recent information and his support is gratefully acknowledged.

The analysis of the data however, and the questions raised are the sole responsibility of the authors and do not necessarily reflect the perception of the Administrative Sciences Association of Canada, Statistics Canada or the Council of Deans.

(1) Among these: "Canada Council and Administrative Studies: Funding Patterns in the Mid-1970's" (by Donald M. Caskie); "Employment Patterns of Administrative Studies Graduates in the Federal Public Service in the 1970's (A Statistical Profile)" (by Donald M. Caskie and Max von Zur-Muehlen); "National Research Council Support for University Management Education - A Preliminary Description" (by Alf Chaiton); "Income Patterns of Business Graduates and Those in Other Selected Disciplines in the Mid-1970's" (by Donald M. Caskie and Max von Zur-Muehlen); and "Business Faculty at Canadian Universities in the Mid-1970's" (by Donald M. Caskie, Alf Chaiton, and Max von Zur-Muehlen).

It is hoped that this draft report, along with the other studies, will contribute to a better understanding of the evolution of management education in Canada and its future requirements. This report acknowledges the indebtedness to the Bronfman Foundation which in a critical period in the development of the Canadian management schools has shown vision and leadership.

Note of Acknowledgement

We wish to express our appreciation to Mrs. Christine Jolicoeur and Mrs. Ella Kealey for typing and clerical assistance, as well as Alf Chaiton for his research and editorial support.

LIST OF TABLES

During the mid-1960's, the Bronfman Foundation was established with a trust fund of $1,000,000. The annual income of approximately $50,000 was distributed for three types of awards: M.B.A. fellowships, doctoral, and senior faculty awards. Since 1966-67, over 200 fellowships in these three categories have been awarded. For the 12 year period, 1966-67 to 1977-78, over half a million dollars has been distributed to recipients of Seagram fellowships.(1)

It is of interest to relate the number of applications to the number of fellowships granted by each type of award. For first year M.B.A. students, only every fifth applicant was successful (Table 1). On the average, from 38 applications, 8 awards were granted during the seventies. This success ratio declined to slightly more than 10% for second year M.B.A. students, partly because the number of awards were only four.

At the doctoral level, the number of applications varied from a high of 38 in 1970-71 to a low of 17 in 1966-67 and 18 in 1974-75 and 1975-76 (Table 2).(2) This variation in applications has affected the success ratio from a low of 15.8% in 1970-71 to close to 50.0% in recent years.

The senior faculty fellowship, which is a research grant whose amount has varied by project and year, received, on the average, a dozen applications each year, but awarded about 3 fellowships annually (Table 3). This figure needs to be compared with the well over 1,000 full-time faculty members at Canadian management schools.

(1) The first year M.B.A. students received $1,000, the second year M.B.A. students received $1,600, - the doctoral award holders $2,500, and the amount of the senior faculty awards varied over the years.

(2) The applicants must be teaching business subjects at a recognized Canadian university and must be sponsored by that university (see page 20 for additional information).

Table 1

Seagram M.B.A. Fellowship Applications and Awards, 1973-74 to 1977-78

Year	First Year M.B.A.			Second Year M.B.A.		
	Applications	Awards	Success Ratio	Applications	Awards	Success Ratio
1973-74	42	8	19.0	41	4	9.8
1974-75	43	8	18.6	25	4	16.0
1975-76	29	8	27.6	36	4	11.1
1976-77	40	8	20.0	38	4	10.5
1977-78	38	8	21.0	29	4	13.8

Table 2

Seagram Doctoral Fellowship Applications and Awards Granted, 1966-67 to 1977-78

Year	Applications	Awards	Success Ratio
1966-67	17	7	41.2
1967-68	24	7	29.2
1968-69	25	5	20.0
1969-70	33	6	18.2
1970-71	38	6	15.8
1971-72	N/A	6	-
1972-73	N/A	9	-
1973-74	26	9	34.6
1974-75	18	9	50.0
1975-76	18	9	50.0
1976-77	28	9	32.1
1977-78	20	9	45.0

Table 3

Seagram Senior Faculty Fellowship Applications and Awards, 1966-67 to 1977-78

Year	Applications	Awards	Success Ratio
1966-67	1	1	100.0
1967-68	4	2	50.0
1968-69	21	3	14.3
1969-70	15	3	20.0
1970-71	10	2	20.0
1971-72	N/A	N/A	-
1972-73	N/A	N/A	-
1973-74	26	6	23.1
1974-75	8	4	50.0
1975-76	10	4	40.0
1976-77	9	3	33.3
1977-78	9	4	44.4

Major characteristics of the Bronfman Foundation fellowship programs have been that the number of applications submitted has considerably exceeded the number of awards available, and the amount granted for each recipient, particularly at the doctoral level, was small in comparison to the Canada Council and the National Research Council fellowship programs which provide about $5,000 for each recipient as compared with $2,500 for the doctoral Seagram awards.(3)

For a three year period, 1975-76 to 1977-78, more detailed information is available for the doctoral and the senior faculty fellowship programs with regard to their area of specialization and sponsoring university. The overall success ratio for the three year period in the doctoral program was 40.9% with a high in organization theory of 66.7% to a low of 18.2% in marketing (Table 4). This variation suggests that the quality of applications might vary or the criteria of selection be different depending on the area of specialization.(4)

The applications and awards of the doctoral Seagram Fellowship program have also been grouped by the sponsoring university and region (Table 5). For the three year period, there were 66 applicants and 27 awards granted. However, the success varied by region from about 30% in the Atlantic provinces and Quebec to 77% for Ontario universities. From the 39 business schools, 23 sponsored faculty members for doctoral study during the three year

(3) For 1978-79, the number of doctoral awards has been reduced from 9 to 6, but the amount increased to $6,000. The M.B.A. fellowship program has been discontinued, and for senior faculty awards a total of $9,000 will be available.

(4) Although aggregates for three years are used, for some of the specializations the numbers involved are so small that no meaningful interpretation could be made.

Table 4

Applications and Awards of Seagram Doctoral Fellowships by Business Specializations for a Three Year Period, (1975-76 to 1977-78)

Specialization	Applications	Awards	Success Ratio
Accounting	10	5	50.0
Business Administration	5	1	20.0
Computer Science	2	0	0.0
Finance	6	2	33.3
Industrial Relations	2	0	0.0
Management	10	3	30.0
Marketing and Retailing	11	2	18.2
Operation Research	1	1	100.0
Organization Theory	12	8	66.7
Personnel	2	2	100.0
Transportation	2	1	50.0
Other Specialization	3	2	67.7
Total	66	27	40.9

Table 5

Applications and Awards of Doctoral Seagram Fellowships by the Sponsoring University for a Three Year Period, (1975-76 to 1977-78)

University	Applications	Awards	Success Ratio	Proportion of Business Faculty who Applied*	Proportion of Successful Faculty*
Memorial	5	1	(20.0)	8.3	1.1
Prince Edward Island	1	1	(100.0)	4.8	4.8
Acadia	1	0	(0.0)	2.8	0.0
Dalhousie	2	0	(0.0)	2.2	0.0
St. Francis Xavier	2	2	(100.0)	6.1	6.1
Moncton	1	0	(0.0)	1.3	0.0
New Brunswick	1	0	(0.0)	1.2	0.0
Atlantic Region	13	4	(30.8)	3.3	1.0
Laval	5	2	(40.0)	3.2	1.3
Quebec à Chicoutimi	2	0	(0.0)	0.0	0.0
Québec à Montréal	5	3	(60.0)	3.1	1.1
Québec à Rimouski	6	0	(0.0)	0.0	0.0
Sherbrooke	5	4	(80.0)	4.0	3.2
Concordia	7	0	(0.0)	3.6	0.0
Quebec	30	9	(30.0)	4.1	1.2
Laurentian	1	0	(0.0)	2.1	0.0
McMaster	1	1	(100.0)	0.9	0.9
Queen's	8	7	(87.5)	6.5	5.7
Ryerson	1	0	(0.0)	0.3	0.0
Toronto	1	1	(100.0)	0.7	0.7
York	1	1	(100.0)	0.8	0.8
Ontario	13	10	(76.9)	1.5	1.2
Manitoba	1	0	(0.0)	0.6	0.0
Saskatchewan	5	4	(80.0)	3.8	3.0
British Columbia	1	0	(0.0)	1.1	0.0
British Columbia Inst. of Technology	1	0	(0.0)	0.0	0.0
Simon Fraser	2	0	(0.0)	9.1	0.0
Western Region	10	4	(40.0)	1.6	0.6
Canada	66	27	(40.9)	2.5	1.0

* Based on the number of university teachers who were teaching business subjects annually.

period. The success ratio varied substantially by university from 87.5% for Queen's and 80.0% for Sherbrooke and Saskatchewan, to no awards for Concordia and Quebec (Rimouski). The latter submitted 7 and 6 applications, as compared with 5 from Saskatchewan and Sherbrooke and 8 from Queen's.

In this context, it is helpful to relate the applications and awards of the Seagram doctoral fellowship by university to the number of faculty who were potentially eligible to apply. On average, of those universities which applied, 2.5% of the faculty were sponsored with a high of 6.5% for Queen's whose success ratio was 87.5%. For most other universities, the participation and success rates were substantially lower. This might indicate less demand in these universities for doctoral fellowships and also differences in the quality of applicants where the success rate was low.

The senior faculty award program, for a three year period, received 28 applications and granted 11 awards with a success ratio of 39.3% (Table 6). Thirteen of the applications were in finance and organization theory which is a substantially higher percentage than the number who teach these two specializations. The success ratio was not markedly different for each specialization from the average. This applied also for regional variations, where the Atlantic provinces, Ontario and the Western region were slightly above the national average of 39.3% and Quebec below (only 2 out of 8 applicants were successful) (Table 7). Expressed differently, each year,

Table 6

Applications and Awards of Senior Faculty Seagram Fellowships by Business Specialization for a Three Year Period, (1975-76 to 1977-78)

Specialization	Applications	Awards	Success Ratio
Accounting	1	1	100.0
Business Administration	3	1	33.3
Computer Science	1	0	0.0
Finance	8	4	50.0
Industrial Relations	2	0	0.0
International Business	1	0	0.0
Management	4	2	50.0
Marketing	2	1	50.0
Organization Theory	5	2	40.0
Other Specialization	1	0	0.0
Total	28	11	39.3

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Table 7

Applications and Awards of Senior Faculty Seagram Fellowships by Sponsoring University for a Three Year Period, (1975-76 to 1977-78)

University	Applications	Awards	Success Ratio	Proportion of Business Faculty who Applied*	Proportion of Successful Faculty*
Dalhousie	1	1	(100.0)	1.1	1.1
St. Mary's	1	0	(0.0)	1.2	0.0
Atlantic Region Total	2	1	(50.0)	1.2	0.6
Ecole des Hautes Etudes Commerciales	1	1	(100.0)	0.4	0.4
Québec (Montréal)	2	0	(0.0)	2.2	0.0
Sherbrooke	3	0	(0.0)	2.4	0.0
Concordia	2	1	(50.0)	1.0	0.5
Quebec Total	8	2	(25.0)	1.2	0.3
Brock	1	1	(100.0)	5.6	5.6
Carleton	1	1	(100.0)	2.8	2.8
McMaster	1	0	(0.0)	0.9	0.0
Ottawa	1	1	(100.0)	1.3	1.3
York	3	1	(33.3)	2.5	0.8
Western Ontario	1	0	(0.0)	0.5	0.0
Windsor	1	0	(0.0)	1.1	0.0
Ontario Total	9	4	(44.4)	1.4	0.6
Manitoba	2	1	(50.0)	1.3	0.6
Alberta	1	0	(0.0)	0.6	0.0
Calgary	3	1	(33.3)	2.7	0.9
British Columbia	1	1	(100.0)	0.4	0.4
Simon Fraser	2	1	(50.0)	3.0	1.5
Western Region	9	4	(44.4)	1.2	0.5
Canada	28	11	(39.3)	1.2	1.4

* Based on the number of university teachers who were teaching business subjects annually.

on the average, only 1.2% of faculty members applied from those universities. From 22 business schools, there were no applications.

There was no variation in the success ratio by age group (Table 8). The 45 and older age group however, was substantially under represented. Whereas only 4.0% applied for a senior faculty award, the age group 45 and older constituted over 25.0% of the business faculty members. Table 9 gives a list of titles of the senior faculty awards.

Some concluding observations could be made. The Bronfman Foundation, which was established in honour of Samuel Bronfman, has made a substantial contribution to Canadian management schools during the last twelve years. Almost a hundred faculty members have been given the opportunity to begin or to continue their doctoral studies. The amount of the fellowship was $2,500, and in conjunction with educational or sabbatical leave or together with a Canada Council award, this has enabled many business faculty members to upgrade their formal qualifications. This program could be regarded as the major activity of the foundation. Interestingly enough, only male faculty members have applied for these doctoral awards.

It would be worthwhile to conduct follow-up studies of these Seagram Award recipients in order to ascertain whether they have completed their doctoral studies, what their career patterns have been, and the titles of their dissertations. and if they have been published in any form. Similarly, it is puzzling why only about half of the business schools have participated in the doctoral competition of the Bronfman Foundation and why there is such an uneven success rate

Table 8

Applications and Awards of Senior Faculty Seagram Fellowships
by Age Group for a Three Year Period,
(1975-76 to 1977-78)

Age Group	Application*	Awards*	Success Ratio	Age Distribution of Total Business Faculty**
30 - 34	14 (56.0)	6 (60.0)	42.8	27.6
35 - 39	5 (20.0)	2 (20.0)	40.0	21.4
40 - 44	5 (20.0)	2 (20.0)	40.0	14.0
45 - 49	1 (4.0)	0 (0.0)	0.0	10.9
Number Reported	25 (100.0)	10 (100.0)	40.0	1,372
Not Reported	3	1	33.3	2
Total	28	11	39.3	1,374

* Percentage in brackets shows the age distribution of applicants

** 26.1% were either younger or older then the Seagram Award applicants

Table 9

Working Titles for Senior Faculty Awards,
(1975-76 to 1977-78)

1975

1) The Development of Shareholder Constituencies in Canada
2) A Simulation Model of Corporate Seat-of-The Pants Decision Making
3) Diffusion Internationale de Produits Manufacturés: Une Etude Entre Entreprises Multinationales et Entreprises Nationales
4) Management and Canadian Financial Institutions

1976

1) Determinants of System Change in Cross-Cultural Management
2) Job and Community Stability in Resource Towns
3) Benefits to Managers from Informal Helping Relationships in Work Settings

1977

1) Innovation in Capital Marketing
2) An Analysis of the Possible Effect on Bank Management of Using Book Values in Measuring the Size and Performance of the Government Securities Portfolio
3) Money Market Integration
4) Objective and Perceptual Measures or Organizations' Environmental Uncertainty: A Study of Comparative Validity

depending upon the area of specialization or sponsoring university.

The information is not comprehensive enough to allow the testing of different hypotheses such as whether the quality of applicants varied by university and/or by area of specialization or what selection criteria have been employed. The same kind of observations apply to the senior faculty fellowships program.

Another series of questions relate to the application rates for these two programs. For example, why have only less than half of the management schools during the last three years participated in the senior faculty program, and out of those universities which provided applicants why was the annual percentage slightly more than one percent each year? The apparent low participation rate has been documented also for the Canada Council Research Program and this requires much more in-depth analysis of the data with supplemental behavioural information.

For 1978-79, the number of doctoral awards has been reduced from 9 to 6, but the amount increased from $2,500 to $6,000. It is interesting to speculate what the demand for these fellowships will be in the future and how this program will relate to the Social Sciences and Humanities Council doctoral fellowship program which is under review.

As already stated, during a very critical period of Canadian schools of management, the Bronfman Foundation is providing funding to improve the quality of management education, by assisting the business faculty in upgrading their formal qualifications, and to conduct research at a time when the demand for Ph.D.s in business far exceeds the supply.

The contribution of the Bronfman Foundation in these endeavours needs to be recognized and similar ventures encouraged.

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SAMUEL BRONFMAN FOUNDATION

SEAGRAM BUSINESS FACULTY AWARDS

PURPOSE

The Samuel Bronfman Foundation has made available on an annual basis a number of Seagram Business Faculty Awards. The purpose of these awards is to stimulate advanced scholarship and research in business by university faculty members and to increase the supply of qualified university teachers of business in Canada.

TYPES OF AWARDS

Doctoral Fellowships — $6,000 each.

For faculty members not possessing a doctoral degree who plan to work or are working toward the doctoral degree in a recognized formal Ph.D. or D.B.A. program.

Senior Research Awards — up to $4,500 each (average = $3,000), for Senior Faculty Members.

For faculty members who plan to engage in worthwhile research not directed toward a doctoral degree. No distinction is made regarding possession of a doctoral degree.

ELIBILITY

Nominees must be full-time permanent business faculty members of Canadian universities offering the bachelor's degree in business. Persons on leave-of absence for study or research are also eligible for this award. Persons on temporary appointment due to be terminated in the spring or summer prior to the academic year for which the award is applicable are ineligible. A full-time faculty member holding a joint appointment on a business faculty and the faculty of another discipline is eligible.

The Faculty Award tenure period is one year; the Selection Committee may consider a re-application for another year, if warranted by **exceptionnal** circumstances. Awards winners are expected to submit a report on their doctoral or research project.

Nomination forms are obtainable **only** from the Deans or Directors of eligible Canadian Business Faculties and from each of the Heads of appropriate Business Departments in Canadian universities where there are no separate Business Schools. Each eligible School or Department may nominate a maximum of 5 candidates for each of the above awards.

SELECTION

Selection of Seagram Business Faculty Award winners will be made by the Executive Committee of the Administrative Sciences Association of Canada.

The following criteria will be used as a basis of selection:

Quality and importance of research of graduate work to be undertaken.

General academic reputation among colleagues.

An outline of the proposed research project or graduate work anticipated.

General academic background and research record including number and quality of previous publications.

A statement of reference from the Dean of the School or the Head of Department in which the faculty member is employed.

NOTE: Applicants whose application documentation is incomplete will not be considered.

CLOSING DATE

Nomination must be received on or before March 15, in the year preceding the academic year for which the award is intended.

Nominees will be notified on or before April 15 of the results of the competition.